



***Bakery Group***

# BARO-G

## Roll-In Rack Oven

### Operator's Manual

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**READ FIRST**

**THIS MANUAL MUST BE RETAINED FOR FUTURE REFERENCE. READ, UNDERSTAND AND FOLLOW THE INSTRUCTIONS AND WARNINGS CONTAINED IN THIS MANUAL.**

**FOR YOUR SAFETY**

**DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.**

**POST IN A PROMINENT LOCATION:**

**INSTRUCTIONS TO BE FOLLOWED IN THE EVENT THAT USER SMELLS GAS. THIS INFORMATION SHALL BE OBTAINED BY CONSULTING YOUR LOCAL GAS SUPPLIER. AS A MINIMUM, TURN OFF THE GAS AND CALL YOUR GAS COMPANY AND YOUR AUTHORIZED SERVICE AGENT. EVACUATE ALL PERSONNEL FROM THE AREA.**

**WARNING: IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, SERVICE OR MAINTENANCE CAN CAUSE PROPERTY DAMAGE, INJURY OR DEATH. READ THE INSTALLATION, OPERATING AND MAINTENANCE INSTRUCTIONS THOROUGHLY BEFORE INSTALLING OR SERVICING THIS EQUIPMENT.**

<b>Model #:</b>	<b>Purchased From:</b>
<b>Serial #:</b>	<b>Location:</b>
<b>Date Purchased:</b>	<b>Date Installed:</b>
<b>Purchase Order #:</b>	<b>For Service, Call:</b>



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## WARNINGS

**WARNING** THE WATER FROM THE STEAM DRAIN OUTLET IS EXTREMELY HOT AND MAY CAUSE SERIOUS BURNS.



PG. 7

**NOTICE** Left rear drain point is provided. Route to a floor drain. A 1" gap must be provided between oven drain and floor drain.



PG. 7

**WARNING** WIRES ENTERING THE DISCONNECT MAY STILL BE LIVE EVEN WHEN THE SWITCH IS TURNED OFF. SWITCH THE MAIN BREAKER AT THE WALL TO "OFF" WHEN SERVICING THE OVEN



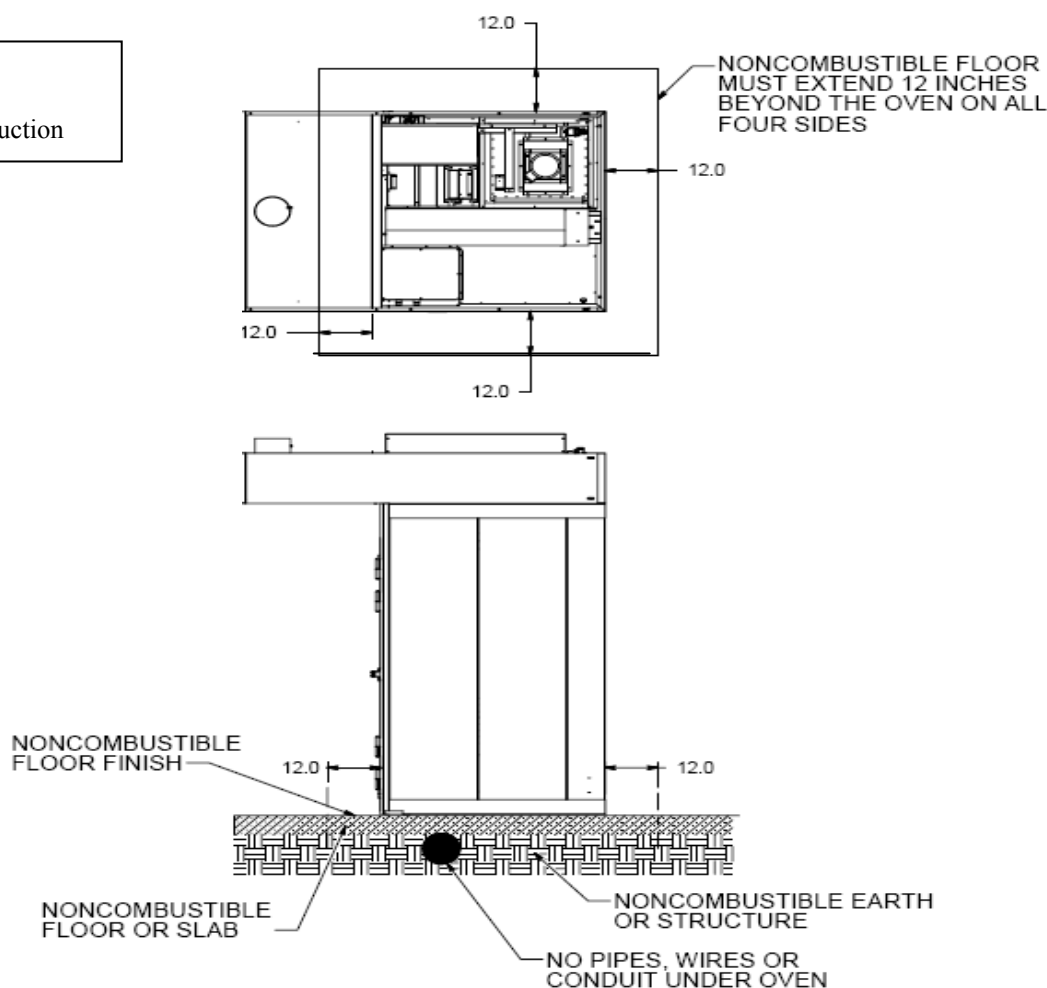
PG. 8

**CAUTION** TO REDUCE THE RISK OF FIRE, THE APPLIANCE IS TO BE MOUNTED ON FLOORS OF NON-COMBUSTIBLE CONSTRUCTION WITH NONCOMBUSTABLE FLOORING AND SURFACE FINISH AND WITH NO COMBUSTIBLE MATERIAL AGAINST THE UNDERSIDE THEREOF, OR ON NONCOMBUSTABLE SLABS OR ARCHES HAVING NO COMBUSTIBLE MATERIAL AGAINST THE UNDERSIDE. SUCH CONSTRUCTION SHALL EXTEND A MINIMUM OF 12-INCHES BEYOND THE EQUIPMENT ON ALL SIDES. See fig. 1















PG. 10











Fig. 1  
Floor  
Construction



## WARNINGS CONT'D

<b><u>WARNING</u></b>	<b>DO NOT UNLOAD THE RACK FROM THE OVEN WHILE THE CARRIER IS IN THE LIFT POSITION. LOADED RACKS CAN BE EXTREMELY HEAVY.</b>		<b>PG. 17</b>
<b><u>WARNING</u></b>	<b>DO NOT REMOVE A FLAMING PRODUCT FROM THE OVEN. SEVERE BURNS AND PROPERTY DAMAGE CAN RESULT.</b>		<b>PG. 17</b>
<b><u>CAUTION</u></b>	<b>INSTALLATION MUST CONFORM WITH LOCAL CODES OR IN THE ABSENCE OF LOCAL CODES THE NATIONAL FUEL GAS CODE, ANSIZ223.11996.</b>		<b>PG. 10</b>
<b><u>CAUTION</u></b>	<b>THIS APPLIANCE, WHEN INSTALLED, MUST BE ELECTRICALLY GROUNDED IN ACCORDANCE WITH LOCAL CODES, OR IN THE ABSENCE OF LOCAL CODES, WITH THE NATIONAL ELECTRICAL CODE, ANSI/NFPA 70-1996.</b>		<b>PG. 11</b>
<b><u>CAUTION</u></b>	<b>FOR INSTALLATION IN CANADA THE INSTALLATION MUST BE IN ACCORDANCE WITH CAN/CGA-B149.1&amp;2 OF THE INSTALLATION CODE, AND LOCAL CODES WHERE APPLICABLE. ALL ELECTRIC WIRING MUST BE IN ACCORDANCE WITH THE CURRENT CANADIAN ELECTRICAL CODE, C22.1 PART 1. GROUNDING THIS APPLIANCE MUST CONFORM TO CANADIAN ELECTRICAL CODE, CSA C22.2.</b>		<b>PG. 11</b>
<b><u>WARNING</u></b>	<b>INSTALLATION OF THE UNIT MUST BE DONE BY PERSONNEL QUALIFIED TO WORK WITH ELECTRICITY AND PLUMBING IMPROPER INSTALLATION CAN CAUSE INJURY TO PERSONNEL AND /OR DAMAGE TO EQUIPMENT. UNIT MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE CODES.</b>		<b>PG. 11</b>
<b><u>WARNING</u></b>	<b>DO NOT ALLOW ANY PART OF YOUR BODY TO BE UNDER THE OVEN DURING THE LIFTING PROCESS. KEEP EVERYONE CLEAR FORM THE OVEN IF IT SHOULD FALL.</b>		<b>PG. 11</b>
<b><u>NOTICE</u></b>	<b>It is imperative that a mechanical exhauster is installed, and a pressure sensitive switch is installed at the collar of the hood. If a negative draw of 0.6 is not achieved, the burner will not come on.</b>		<b>PG. 14</b>
<b><u>NOTICE</u></b>	<b>No other exhaust systems may be connected to this system. Do not try to vent or exhaust another appliance into this hood.</b>		<b>PG. 14</b>
<b><u>NOTICE</u></b>	<b>Do not allow more than 14 inches pressure to be applied to the gas valve at any time.</b>		<b>PG. 15</b>
<b><u>WARNING</u></b>	<b>WHEN REMOVING THE RACK OR PRODUCT FROM THE RACK WHERE OVEN MITTS TO AVOID SERIOUS BURNS.</b>		<b>PG. 17</b>
<b><u>NOTICE</u></b>	<b>Always ensure the grease filters supplied with the oven are used. Replacement filters may be ordered from your bakery service representative.</b>		<b>PG. 14</b>

## WARNINGS CONT'D

<b><u>WARNING</u></b>	<b>THIS OVEN PRODUCES HUMIDITY THAT CAN CAUSE THE INTERIOR FLOORING AND ADJACENT EXTERIOR FLOORING TO BECOME SLIPPERY. USE EXTREME CAUTION WHEN WALKING ON A WET OR DAMP FLOOR.</b>		PG. 17
<b><u>NOTICE</u></b>	The ambient temperature outside the oven should not exceed 104° F (40° C). This includes the temperature of the air above and Around the oven.		PG.17
<b><u>NOTICE</u></b>	During the first few hours of operation you may notice a small amount of smoke coming off of the oven, and a faint odor from the smoke. This is normal for a new oven and will disappear after the first few hours of use.		PG. 17
<b><u>WARNING</u></b>	<b>WHEN THE LOADING DOOR IS OPENED, HOT AIR AND STEAM ARE RELEASED FROM THE OVEN INTERIOR. TO AVOID BURNS OPEN DOOR SLOWLY AND KEEP YOUR FACE AND HANDS CLEAR OF THE OPENING. ALL INTERIOR SURFACES ARE VERY HOT. DO NOT TOUCH ANYTHING WITHOUT OVEN MITTS.</b>		PG. 17
<b><u>NOTICE</u></b>	The steam, vent and fan functions cannot be used together in the same step.		PG. 18
<b><u>NOTICE</u></b>	Service on this, or any other, appliance must be performed by qualified personnel only. Consult your authorized service agency directory or call the factory		PG. 18
<b><u>NOTICE</u></b>	To maintain optimum safety and performance for oven models BARO-1G & BARO-2G, it is recommended that a program of scheduled periodic maintenance be implemented. It's sole responsibility of the user to establish, schedule and enforce such a program. Although the actual service interval will vary depending on the environment in which the equipment is operating, it is recommended the following be done by an authorized service agency at least every 6 months.		PG. 18
<b><u>NOTICE</u></b>	For periodic maintenance and repairs, electrical diagrams are included in this manual and with the oven.		PG. 19
<b><u>WARNING</u></b>	<b>SINCE RESETS FOR THE CIRCULATION BLOWER MOTOR AND THE LIFTER MOTOR / ROTATOR MOTOR ARE AUTOMATIC, ALL POWER TO THE OVEN MUST BE TURNED OFF BEFORE SERVICING.</b>		PG. 22
<b><u>NOTICE</u></b>	If shutter settings are to be adjusted differently than the recommended factory settings, the best results will be obtained if you. (A) Start with the factory settings. (B) Close shutters to lighten a product in a given area- do not open shutters to darken a product. (C) Do not move a shutter more than 1/32" or 1mm (see step gauge and shutter setting illustration) at any one time. (D) Be sure all settings for left hand shutters match those for right hand shutters. (E) Do not adjust more than two shutters per side per time (four shutters total).		PG. 18



## EQUIPMENT DESCRIPTION

### Data Plate

On this plate you will find the oven model, serial number, electrical ratings, (BTU's, and gas type for gas ovens), and clearance specification. Data plate is located behind controller door on component cover.

### Exterior Construction

The BARO-2G oven exterior dimensions are 72" (1829 mm) wide x 105" (2667 mm) high x 62" (1575 mm) Deep. The Top, front, Back and Sides are constructed of stainless steel with 5 inches of insulation.

The BARO-1G oven exterior dimensions are 55" (1397 mm) wide x 105" (2667 mm) high x 51" (1295 mm) Deep. The Top, front, back and sides are constructed of stainless steel with 5 inches of insulation.

The oven is designed for floor level loading.

Type I or Type II compliant hood with single 8" point exhaust connection complying with Uniform Mechanical Code and NFPA 96: State, County and local codes may vary; always check with local code officials.

The oven door is constructed of stainless steel with a full height single pane window and an interior releasing mechanism.

### Interior Construction

An externally mounted florescent light provides excellent product visibility.

The BARO-2G oven cavity dimensions are 52" (1320 mm) wide x 75" (1905 mm) high x 52" (1320 mm) deep. The interior is constructed of stainless steel.

The BARO-1G oven cavity dimensions are 36.5" (927 mm) wide x 75" (1905 mm) high x 39" (9906 mm) deep. The interior is constructed of stainless steel.

The Rack Carrier facilitates smooth and simple rack loading and unloading.

The Rack Lift provides gentle rack lift and rotation protecting delicate products.

The built in steam generator generates steam quickly.

Oven air circulation is fully adjustable, providing even baking or cooking.

### Controls

The large digital display is easy to understand and operate.

Pre-Programmable product selections simplify operation.

Step functions allow for special menus

Automated control functions include temperature, time, steam, vent, and fan delay

### Technical

The oven requires a 120-volt single-phase power supply and a 208/240-volt three-phase power supply.

The oven requires a 3/4" NPT connection for gas supply.

The oven requires a 1/2" NPT connection for water supply.

The oven requires no clearance from combustible wall construction.

The oven will be heated by natural gas or propane at a heating rate of 175,000 BTU for the BARO-1G and 290,000 BTU for BARO-2G. NG (LP must be specified when ordering).

### WARNING

**THE WATER FROM THE STEAM DRAIN OUTLET IS EXTREMELY HOT AND MAY CAUSE SERIOUS BURNS.**



### Steam Drain Outlet

Water exits the steam generating system through this outlet. It is located at left rear corner of the oven.

### NOTICE

**Left rear drain point is provided. Route to a floor drain. A 1" gap must be provided between oven drain and floor drain.**



## EQUIPMENT DESCRIPTION CONT'D

### **Floor Drain**

This drain (customer supplied) receives the excess water from the steam generating system.

### **Rack Carrier**

The Rack Carrier attaches to the top of the oven rack.

When the loading door is closed, the rack carrier lifts and rotates the oven rack.

### **Rack Stop**

The two rack stops are located on the carrier and secure the oven rack in place during baking. The leading edge of the forward stop must be manually flipped down to unload the oven rack. The stop will automatically return to the up (loading) position when the rack is removed.

### **Hood**

Steam and burner exhaust is discharged into the hood. Grease, if present, is channeled to and collected in a grease cup for later removal.

### **Hood Exhaust**

Cooking fumes and burner exhaust pass through a duct to the hood exhaust outlet. A customer-supplied exhaust blower is required. The hood can be wired to the external device terminals in the service box. This insures the hood is on whenever the oven is on. The "POWER" switch on the oven control panel activates the blower. The blower must be running before the oven will operate. A factory installed airflow switch disables heat until airflow exists.

### **Interior Door Release**

This door release allows the door to be opened from inside the oven.

### **120V Circuit Breakers**

Power to run the control panel and hood blower can be disconnected at these points. Switch to "OFF" when servicing oven or blower.

### **WARNING**

**WIRES ENTERING THE DISCONNECT MAY STILL BE LIVE EVEN WHEN THE SWITCH IS TURNED OFF. SWITCH THE MAIN BREAKER AT THE WALL TO "OFF" WHEN SERVICING THE OVEN**



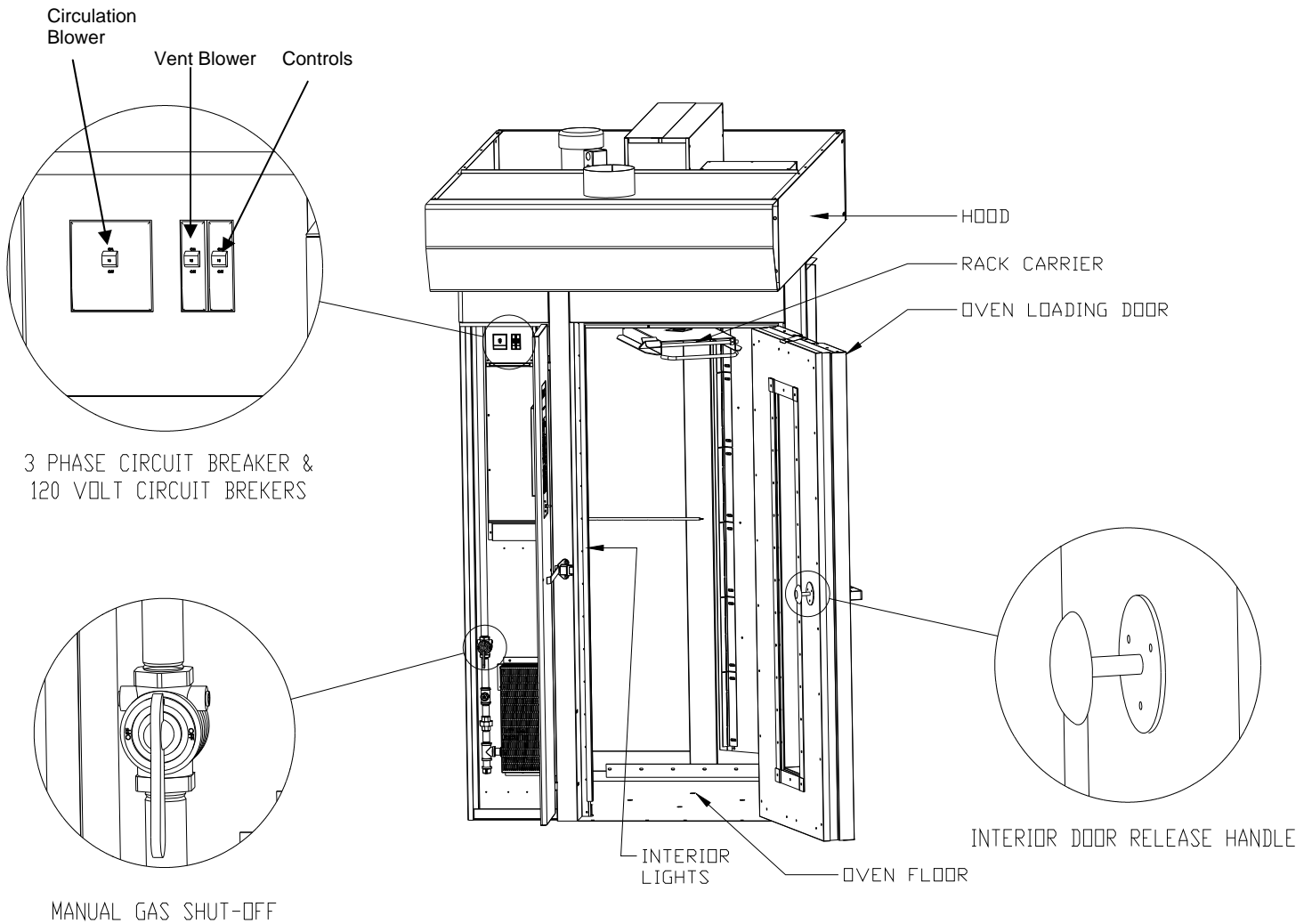
### **Manual Gas Shutoff**

Gas is supplied to the oven through this valve. This valve is typically left open, but needs to be closed when servicing the oven. To close the valve, turn its handle to a horizontal position.

### **3-Phase Circuit Breaker**

This disconnect provides short circuit protection for the circulation blower motor. Switch to OFF when servicing the oven.

## EQUIPMENT DESCRIPTION CONT'D



# INSTALLATION INSTRUCTIONS

## **CAUTION**

**TO REDUCE THE RISK OF FIRE, THE APPLIANCE IS TO BE MOUNTED ON FLOORS OF NON-COMBUSTIBLE CONSTRUCTION WITH NONCOMBUSTABLE FLOORING AND SURFACE FINISH AND WITH NO COMBUSTIBLE MATERIAL AGAINST THE UNDERSIDE THEREOF, OR ON NONCOMBUSTABLE SLABS OR ARCHES HAVING NO COMBUSTIBLE MATERIAL AGAINST THE UNDERSIDE. SUCH CONSTRUCTION SHALL EXTEND A MINIMUM OF 12-INCHES BEYOND THE EQUIPMENT ON ALL SIDES. See fig. 1 Page 4.**



## **Receiving the Oven**

**Upon receipt, check for freight damage**, both visible and concealed. Visible damage should be noted on the freight bill at the time of delivery and signed by the carrier's agent. Concealed loss or damage means loss or damage which does not become apparent until the merchandise has been unpacked. If concealed loss or damage is discovered upon unpacking, make a written request for inspection by the carrier's agent within 15 days of delivery. All packing material must be kept for inspection. **Do not return damaged merchandise. File your claim with the carrier.**

## **Pre-Installation**

Check the area where the oven is to be installed for the following:

- No electrical conduit or wires are to be under the floor of the oven. See Fig. 1 Page 4 and above CAUTION!
- The oven must be mounted on a non-combustible surface. This includes the structure beneath the floor. The floor must be level within 3/4". See Fig. 1 Page 4, and above CAUTION!
- Ceiling height above the oven should be sufficient to allow servicing the lifter, vent, and blower motor assemblies. The maximum height needed for tilting the oven up is 105 inches.
- Clear access is needed to the roof or exterior of the facility for hood exhaust. Check local codes for correct venting.
- Caution should be taken when enclosing hood to ceiling and oven is under a fire sprinkler; hood exhaust stack will emit heat.
- Access is needed for an air-gap drain in the rear left corner of the oven.
- Adequate space is needed in front of the oven to load and unload racks. Racks are hot and need space to cool.
- **The oven needs make-up air to operate.** The hood exhaust will need at least 600 CFM for Model BARO-1G and 800 CFM for model BARO-2G.
- Local and national codes will require an electrical shut-off within a reasonable distance to the oven.
- Local and National codes will require access to a manual Gas Shut-off.
- The door swing (46.0") will need to be clear to allow adequate loading and unloading of the oven. Check the space next to the oven and be sure it does not interfere with the door.

## **Un-Crating**

The oven is shipped in either one or two main pieces not including hood. If oven is shipped in two pieces read and review the assembly instructions. If it comes in one main piece the assembly instructions will not be necessary.

Move the large oven crates into the room, near where it is to be installed. Allow clear access for a forklift or lifting apparatus at the top end of the oven. The bottom end of the oven crate is beveled at the skids.

Remove crating materials and plastic wrap from the oven. Remove the heat exchanger vent duct from the skid.

## **CAUTION**

**INSTALLATION MUST CONFORM WITH LOCAL CODES, OR IN THE ABSENCE OF LOCAL CODES TO THE NATIONAL FUEL GAS CODE, ANSI Z223.1-1996.**



## **CAUTION**

THIS APPLIANCE, WHEN INSTALLED, MUST BE ELECTRICALLY GROUNDED IN ACCORDANCE WITH LOCAL CODES, OR IN THE ABSENCE OF LOCAL CODES, WITH THE NATIONAL ELECTRICAL CODE, ANSI/NFPA 70-1996.



## **CAUTION**

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## **WARNING**

INSTALLATION OF THE UNIT MUST BE DONE BY PERSONNEL QUALIFIED TO WORK WITH ELECTRICITY AND PLUMBING. IMPROPER INSTALLATION CAN CAUSE INJURY TO PERSONNEL AND /OR DAMAGE TO EQUIPMENT. UNIT MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE CODES.



## **WARNING**

DO NOT ALLOW ANY PART OF YOUR BODY TO BE UNDER THE OVEN DURING THE LIFTING PROCESS. KEEP EVERYONE CLEAR FROM THE OVEN IF IT SHOULD FALL.



## **Raising**

Raise the oven to its vertical, upright position with the use of a forklift or other lifting device. Lower the oven to the floor without dropping.

- Raise one end of each oven skid with a forklift until the oven is at 60° from horizontal. (If a forklift is not available, use a pallet jack and successive stacks of pallets to raise the oven. **DO NOT LIFT THE OVEN BY HAND**). Tilt the oven to the vertical position by hand from the raised position.
- Ease the oven to the floor and do not allow it to fall over. **OVEN HALVES ARE UNSTABLE.**

**Note: Single ovens come pre-assembled and will not require assembly.**

## **Assembly**

- Move the erected oven halves to where the mating faces are 2-3 feet apart.
- Place the oven floor on the ground against the right wall of the oven and 6 inches forward of the rear wall.
- Carefully raise the front edge of the right wall with a pry bar and slide the floor back until it touches the back wall.
- Slide the right half of the oven toward the left half until the two mate together.

**Note: Nudge the halves with pry bars to move them. Do not force parts to fit.**

- Bolt the inner skin together at the rear, top and front header using 10 mm gimlet point screws provided.
- Install 12mm x 25 mm hex head bolts, nuts, and lock washers at the joint in the rear base, rear top frame and header. Snug all bolts tight.
- Install the insulation provided at the center joint so that there are three layers and no voids.
- Slide the rear joint panel into the upper frame at the back of the oven and drop it into the lower frame to close the back of the oven.
- Place the top insulation cover in place and secure it to the outer ceiling panel with the drill tip screws provided.

### **Assembly Cont'd**

- Raise the front header cover into position between the front jambs and slip it over the header frame until it is flush with the front. Install two drill-tip screws through the top flange of the header cover. Install 5 mm stainless steel sheet metal screws through the bottom flange of the header cover. Use care to keep the gasket in place.
- Install 6 mm x 12 mm truss head stainless steel screws through the inner ceiling joint, inside the oven.
- Place the floor clamp strips around the inside walls of the oven. Install, using 6 mm x 12 mm truss head screws, washers and lock-washers; longer screws are provided for the overlapping joints at the corners. Do not tighten these screws until the oven has been placed at its final location and leveled.

### **Note: Lifter installation is not required on some ovens**

- Place the lifter assembly on top to the oven without the rotator assembly. Center the lifter over the rotator shaft housing with the lift motor to the rear of the oven.
- Install the rotator assembly through the lifter, using care to locate the spring-steel clip between the elevation micro-switches.
- Move the lifter assembly around until the rotator assembly is clear of the lifter frame and all moving parts are free (this should be where the lifter is centered on the rotator shaft). Anchor the lifter assembly in place with the fasteners provided.
- Remove the snap ring, square washer and shipping spacer from the rotator shaft.
- Remove the rack carrier from the bottom of the hood crate. Install the carrier on the rotator shaft inside the oven using the snap ring provided. Install the four set-screws in the carrier-shaft collar. Do not tighten yet, as this will allow the carrier to be aligned later.
- Install the end of the flex conduit from the blower motor into the lift frame.
- Uncoil the hi-limit switch from the hi-limit protector bracket and install in the side of the lifter frame with the screws provided.
- Install the door micro-switch, (shipped wired to the lifter frame) at the door switch actuator bracket above the loading door. Adjust the switch for 1/8" over travel. Adjust the switch actuator for maximum travel.
- Connect the wires (34, 35 and 36) from the blower motor to the same wires in the lifter frame.
- Connect the wires (48 and 49) to the terminal at the high-limit switch.
- Connect the white plastic connector from the main harness to the white plastic connector on the lifter harness.
- Check the location of all of the wires to ensure that they are free of sharp edges or moving parts.
- Install the transport wheel on the left jamb by raising the oven with the left front jackscrew, located behind the control door. Use the pan head machine screws provided.
- Extend the transport wheel by adjusting the leveling jack-screws in the rear.

## Setting

Remove the vinyl protective coating from all of the exterior surfaces.

Roll the oven into its final installed position. (You may wish to install the hood before locating the oven.)

Adjust the left front leveling screw until the weight is removed from the wheel assembly. Remove the wheel assembly.

**For right hand doors:** adjust the rear leveling screws and the left front leveling screws until the left jamb is level from left to right and front to back. Lock the left front adjusting screw in place.

Install the loading door.

- Remove the loading door from its crate.
- Stand the door upright and move it into place with a hand truck.
- Align and screw the hinge plate to the door jamb.
- Use care to avoid damaging the door seal.

Adjust the right front leveling screw until the gap at the top of the door opening is even all across. Check the gap along the left side of the door. Recheck the level of the oven.

**For left hand doors:** adjust the rear leveling screws and the right front leveling screws until the right jamb is level from left to right and front to back. Lock the right front adjusting screw in place.

Install the loading door.

- Remove the loading door from its crate.
- Stand the door up right and move it into place with a hand truck.
- Raise the door hinges over the jamb hinges with the hand truck and lower into place.
- Use care to avoid damaging the door seal.

Adjust the left front leveling screw until the gap at the top of the door opening is even all across. Check the gap along the right side of the door. Recheck the level of the oven.

Loosen the floor clamp screws around the perimeter of the oven floor.

Walk around the stainless floor until it is in full contact with the concrete floor. Retighten the floor clamp screws.

Drill the floor with a 10 mm diameter drill to accept the concrete floor anchors.

- Mark the drill bit at 1-1/2" from the end with tape. Drill until the mark is at the top of the stainless steel floor. **Do not drill too deep.**
- Clean the holes of concrete dust.
- If the oven is mounted on stone or ceramic tile, extend the holes and the anchors into the concrete substrate.

Install the anchors in the holes and set in place with the anchor-setting tool. (Note: One good solid blow is better than many little taps.)

Install the flat head screws in the anchors. Use the anchor washers in the holes at the middle of the floor these are larger anchor holes.

Adjust the Loading door latch to ensure a good seal around the door. Do not over tighten the door.

**Adjust the floor seal at the bottom of the door with door closed to insure a good seal to the floor when the door is closed.** This is important for as even of bake as possible.

Check the level of the rack carrier shaft. Place an accurate level on the top of the carrier and rotate the carrier to the four points of the compass. The level bubble should be in the same position relative to the carrier when rotated. If not, remove the carrier and level the shaft.

- Loosen the four corner screws on the rotator shaft level adjusting plate on the under side of the inner ceiling. Remove the two remaining screws.
- Move the shaft manually until the shaft is level in all four directions.
- Retighten the four corner screws.

Drill two new screw holes in the adjusting plate with a 5 mm drill bit and tap 6 mm. Install the two remaining screws to lock the shaft level in place.

### **NOTICE**

**It is imperative that a mechanical exhauster is installed, and the pressure sensitive switch provided is connected at the collar of the hood. If a negative draw of 0.6" W.C. is not achieved, the burner will not come on.**



### **NOTICE**

**No other exhaust systems may be connected to this system. Do not try to vent or exhaust another appliance into this hood.**



### **Installing the Hood**

- Remove the hood from the hood crate. Place the body of the hood on the floor with the open side down. Use cardboard or other protective material to avoid scratches.
- Remove all protective vinyl coatings and place the hood side support trim on each side of the hood and screw to the front of the hood with (4) 6 mm stainless steel truss head machine screws and spacer bushings. Install (4) 5mm truss head stainless steel machine screws through the side support trim and into the top of the hood.
- Attach the rear trim to the opposite end of the hood side support trim using (4) 6 mm truss head stainless steel machine screws.
- Place the combustion exhaust duct (shipped strapped to the oven skid) on the top of the heat exchanger exhaust opening.
- Lift the hood and trim assembly and place it over the top of the oven so that the side and rear trim rest on the top of the oven.
- Push the hood assembly toward the rear of the oven and align the vent exhaust opening and the exhaust duct opening with the associated ducts on the oven.
- Attach the hood side support trim and the rear trim to the top of the oven with 6 mm stainless steel truss head machine screws.
- Attach the hood to the exhaust and vent ducts using 5 mm stainless steel sheet metal screws.
- Install the hood airflow sensor tube at the hood collar opening and at the airflow switch in the lifter assembly located at the top of the oven. Double-check this connection for leaks or crimps in the tube or hose.
- Install the hood deflector using 5 mm stainless steel round head machine screws at the back of the deflector and 5 mm stainless steel truss head machine screws at three holes at the front edge of the deflector.
- Place the three hood filters and the filler channel in the hood filter holder and onto the front lip of the hood.
- Place the hood grease cup on the rear lip of the hood at the drain opening.
- Install the hood valance on the front of the hood.

### **NOTICE**

**Always ensure the grease filters supplied with the oven are used. Replacement filters may be ordered from your bakery service representative.**





## Connecting Utilities

### NOTICE

**Do not allow more than 14 inches pressure to be applied to the gas valve at any time.**



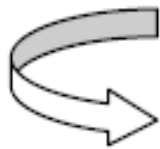
- Connect gas to the oven at the gas connection pipe located at the upper left corner of the oven, above the control cabinet. Be sure that there will be ample gas supply to operate the oven with 5" to 14" W/C at all times with never more than ½" W/C pressure drop. **All gas equipment on supply line on and running.**
- BARO-1G 175,000 BTU each, BARO-2G 290,000 BTU each.
- Connect the electrical service connection to the oven. Consult the data plate for specific current and voltage ratings. 208, 240 or 480 three phase and 120V single phase required. Wire in compliance with local requirements and the National Electric Code.
- Connect water supply to the oven at the water solenoid valve at the top left corner of the oven. Water supply must be between 20 and 80 PSI at all times with a water flow of 9 gallons per minute max only while steaming. Steam is only used 10 seconds every ½ hour so water consumption will be very low. Provide a water shut-off valve near the oven for servicing.
- Connect the drain to the oven. Water drained from the oven will reach temperatures near boiling. The drain line must be provided with an air gap to prevent back siphoning.

### Start-up

- Remove all protective coatings from the oven surface, inside and out.
- Turn on the gas and water supplies to the oven. Check for leaks. Repair any leaks before proceeding.
- Confirm that all electrical connections are proper and all covers are in place. Confirm that the oven is properly grounded.
- Turn on electrical power to the oven. Turn on all circuit breakers located in the electrical compartment.
- Press and hold the power button until the display turns on. The oven interior light should turn on and the control display should light up.
- Close the loading door. The lifter and rack carrier should raise and begin to rotate. Open the door and allow the carrier to stop rotating. Check the position of the alignment of the carrier to the door with no load on rack carrier. If the carrier needs adjustment, remove the chrome caps from the center channel on the rack carrier. Loosen the four set-screws that lock the carrier to the shaft. Rotate the carrier until it aligns with the door and retighten the set-screws. Replace the chrome caps.
- Place a "B" type oven rack in the oven. Measure the spacing between the oven rack top channels and the rack carrier. The space between the carrier lip and the top flange of the rack channel should be approximately ¾". Adjust the lifter micro-switch mount on the lifter body to compensate.
- Close the loading door and check the direction of rotation of the blower motor. The motor should rotate counterclockwise when viewed from the top. If motor runs counterclockwise when viewed from the top reverse L1 and L2 at the power supply side of the motor circuit breaker. **This is very important for an even bake.**
- Heat the oven to 300°F. (Refer to the programming section of this manual for control operating instructions.)
- Check the oven for gas leaks, excessive smoke, vibration and general operation.

## 208/240 VAC, 15 Amp, 3 Phase Circuit

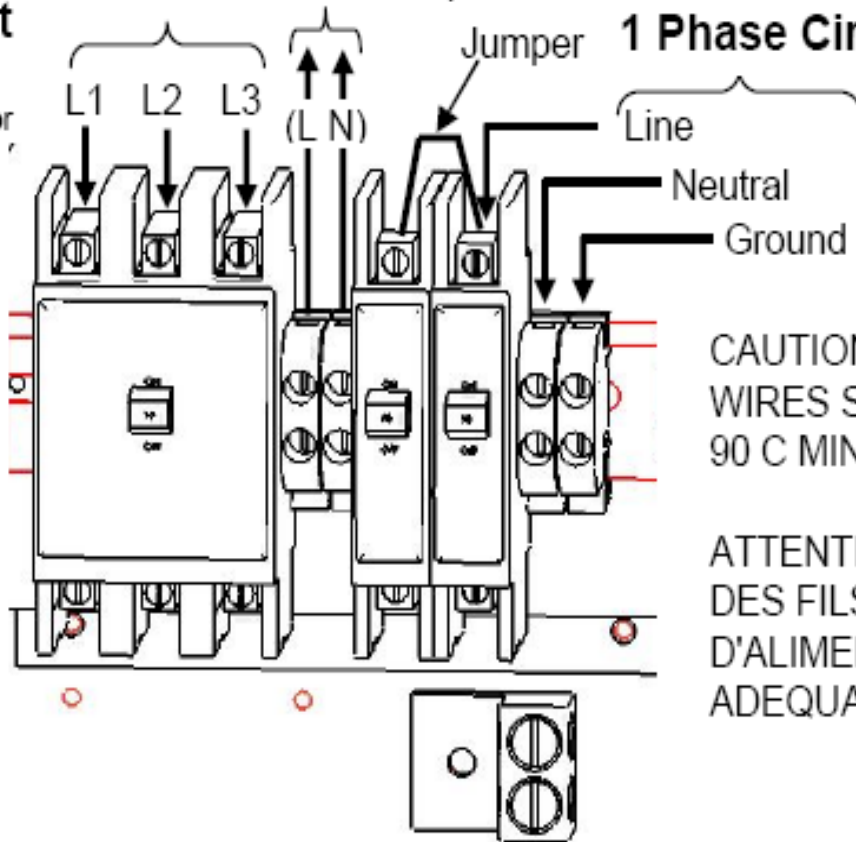
(Phase to rotate  
circulation blower motor  
CCW from above)



Use Copper or  
Aluminum wire  
for power supply  
connections

Output to Hood Ventilator  
120 VAC, 1/2 hp max.

## 120 VAC, 20 Amp, 1 Phase Circuit



CAUTION: USE SUPPLY  
WIRES SUITABLE FOR  
90 C MINIMUM.

ATTENTION: EMPLOYER  
DES FILS  
D'ALIMENTATION  
ADEQUATS POUR 90 C

**Electrical Connection "E1" (control circuit) "E2" (blower circuit)**

### CAUTION

IF BLOWER ROTATION IS INCORRECT, IT WILL CAUSE SEVERE  
DAMAGE TO HEAT EXCHANGER



## EMERGENCY OPERATION

**WARNING** WHEN REMOVING THE RACK OR PRODUCT FROM THE RACK, WHERE HOT MITTS TO AVOID SERIOUS BURNS.



### **Power Failure**

Do not attempt to operate oven.

Turn the Circuit Breakers off until power is restored.

Remove the product from the rack.

**WARNING** DO NOT UNLOAD THE RACK FROM THE OVEN WHILE THE CARRIER IS IN THE LIFT POSITION. LOADED RACKS CAN BE EXTREMELY HEAVY.



### **Burner Failure**

1. Reset the burner:

- a. Turn the controller off.
- b. Turn burner gas shut off valve's to "OFF".

**NOTICE** Wait a minimum of five minutes before proceeding to the next step.



- c. Turn burner gas shut-off valves to "ON".
- d. Turn the controller back on.
- e. If necessary re-adjust the Temp to the desired temperature.

2. Burner should now restart.

### **Product fire in the baking chamber**

1. Turn circuit breakers off.
2. Wait until the fire has gone out and oven chamber cools before opening the door.

**WARNING** DO NOT REMOVE A FLAMING PRODUCT FROM THE OVEN. SEVERE BURNS AND PROPERTY DAMAGE CAN RESULT.



**WARNING** THIS OVEN PRODUCES HUMIDITY THAT CAN CAUSE THE INTERIOR FLOORING AND ADJACENT EXTERIOR FLOORING TO BECOME SLIPPERY. USE EXTREME CAUTION WHEN WALKING ON A WET OR DAMP FLOOR.



**NOTICE** The ambient temperature outside the oven should not exceed 104° F (40° C). This includes the temperature of the air above and around the oven.



**NOTICE** During the first few hours of operation you may notice a small amount of smoke coming off of the oven, and a faint odor from the smoke. This is normal for a new oven and will disappear after the first few hours of use.



**WARNING** WHEN THE LOADING DOOR IS OPENED, HOT AIR AND STEAM ARE RELEASED FROM THE OVEN INTERIOR. TO AVOID BURNS OPEN DOOR SLOWLY AND KEEP YOUR FACE AND HANDS CLEAR OF THE OPENING. ALL INTERIOR SURFACES ARE VERY HOT. DO NOT TOUCH ANYTHING WITHOUT OVEN MITTS.



### Loading Procedures

Set the controls.

Open the door (slowly). Wait for the rack carrier to stop and lower.

Confirm that the rack stop is in the loading (LEADING FLAP UP) position.

Align the top channels of the oven rack with the rack carrier and push the rack past the rack stop.

Close the loading door. The rack carrier will automatically lift the rack and begin to rotate.

Begin baking by pressing START. A buzzer will sound when baking is completed.

### Unloading Procedure

Press the Silence button or open the loading door to turn off the buzzer.

You can view your product through the window. If it appears ready, SLOWLY open the loading door about 6 inches. Let steam and hot air escape from the opening (to be removed through the hood.)

Open the door completely. The rack carrier will come to a stop and the rack will lower.

USING OVEN MITTS flip the rack stop to the unloading (LEADING FLAP DOWN) position.

Remove the rack from the rack carrier.

Close the loading door.

#### NOTICE

**Service on this or any other appliance must be performed by qualified personnel only. Consult your authorized service station directory or call the factory.**



#### NOTICE

**To maintain optimum safety and performance for oven model BARO-1G, it is recommended that a program of scheduled periodic maintenance be implemented. It's sole responsibility of the user to establish, schedule and enforce such a program. Although the actual service interval will vary depending on the environment in which the equipment is operating, it is recommended the following be done by an authorized service agency at least every 6 months.**



#### NOTICE

**The steam, vent and fan functions cannot be used together in the same step.**



### Shut Down Procedure

1. Press the power button. Display, Lights, and Vent Blower should shut off.
2. For lengthy shutdown periods or maintenance, turn power off at the 120-volt and 208/240-volt control power circuit breakers.
3. Turn off the gas supply by setting the Manual Gas Supply Shutoff valves to "OFF".
4. For suggested cleaning schedule consult your dealer.

#### NOTICE

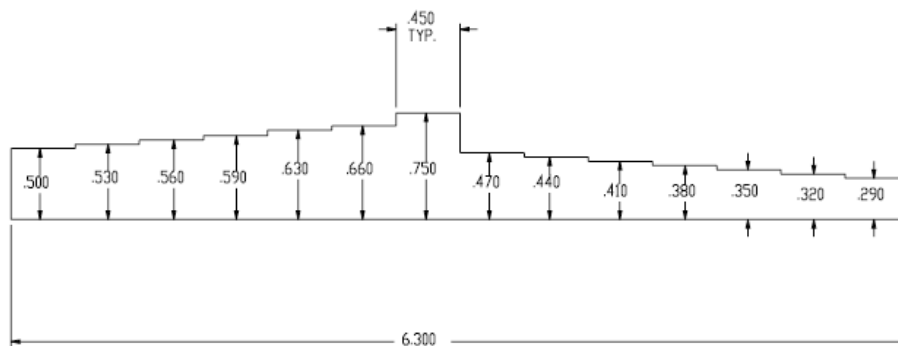
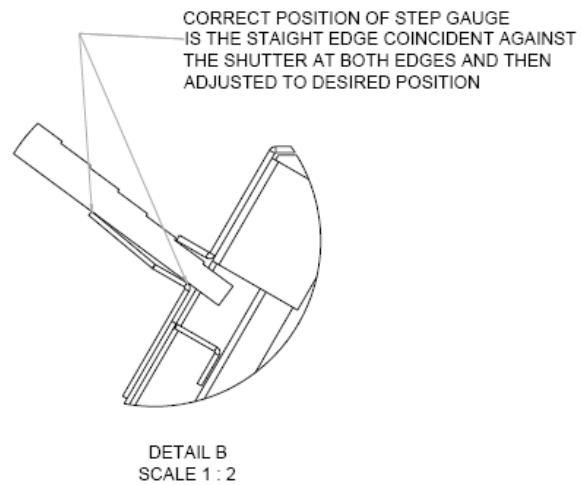
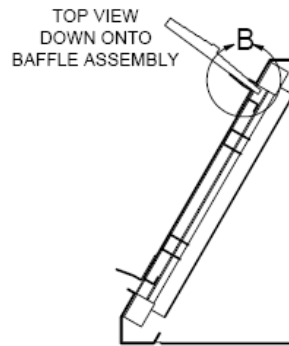
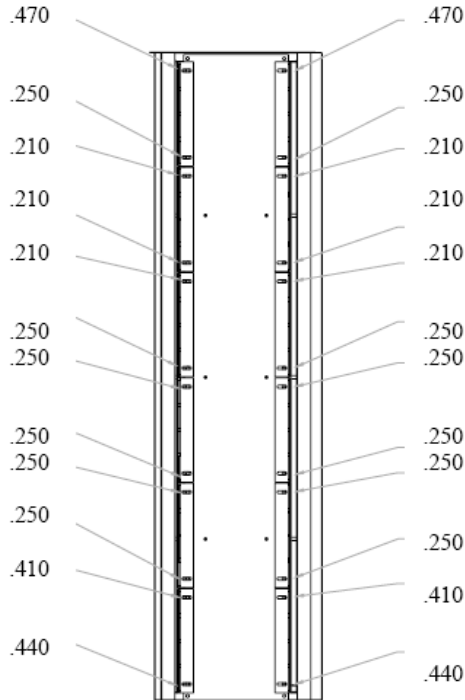
**If shutter settings are to be adjusted differently than the recommended factory settings, the best results will be obtained if you. (A) Start with the factory settings. (B) Close shutters to lighten a product in a given area- do not open shutters to darken a product. (C) Do not move a shutter more than 1/32" or 1mm (see step gauge and shutter setting illustration) at any one time. (D) Be sure all settings for left hand shutters match those for right hand shutters. (E) Do not adjust more than two shutters per side per time (four shutters total).**



## GENERAL MAINTENANCE

### SHUTTER SETTINGS

NOTE: IT IS IMPORTANT THAT ADJUSTMENTS ARE MADE AT FASTENER POSITIONS ALONG BAFFLE. THESE POSITIONS ARE MARKED HERE BY THE FACTORY SHUTTER POSITIONS



#### **NOTICE**

For periodic maintenance and repairs, electrical diagrams are included in this manual and with the oven.



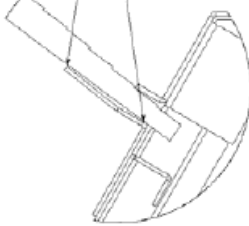
## GENERAL MAINTENANCE CONT'D

### SHUTTER SETTINGS

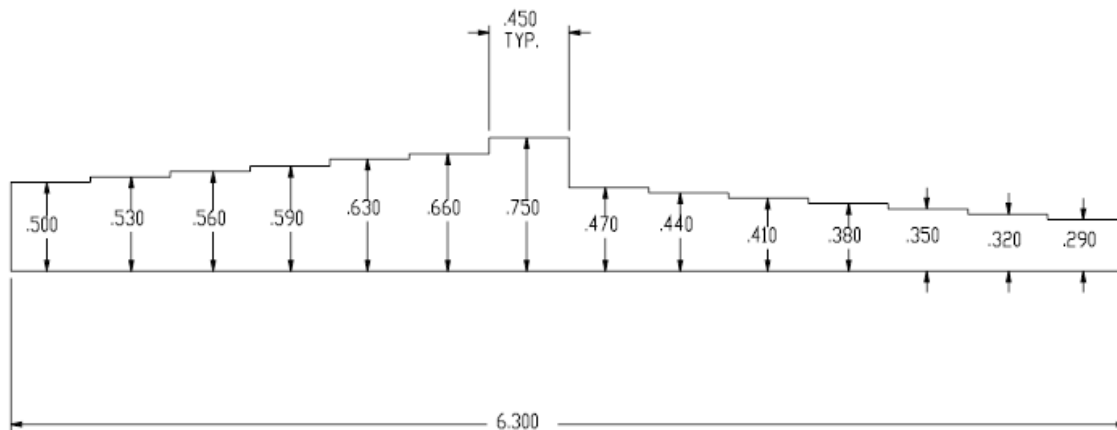
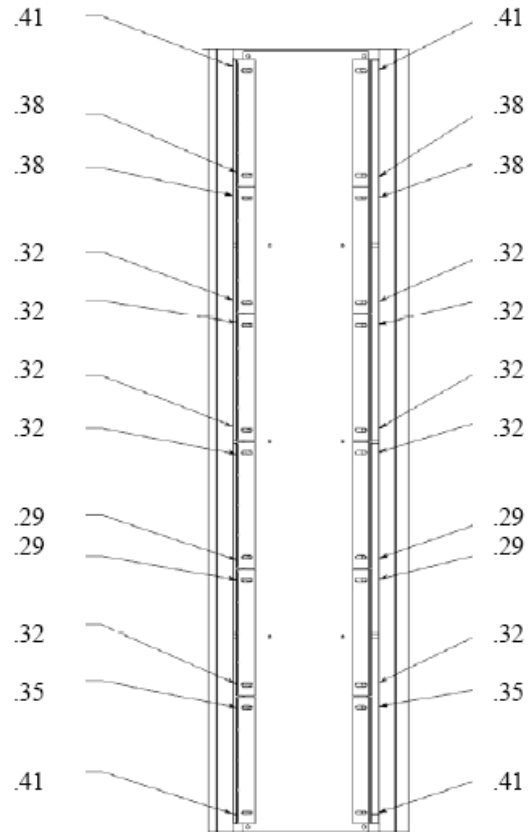
NOTE: IT IS IMPORTANT THAT ADJUSTMENTS ARE MADE AT FASTENER POSITIONS ALONG BAFFLE. THESE POSITIONS ARE MARKED HERE BY THE FACTORY SHUTTER POSITIONS



CORRECT POSITION OF STEP GAUGE IS THE STRAIGHT EDGE COINCIDENT AGAINST THE SHUTTER AT BOTH EDGES AND THEN ADJUSTED TO DESIRED POSITION



DETAIL B  
SCALE 1 : 2



## RESISTANCE CHARTS

Temp	Resistance	Temp	Resistance
70°	1082 $\Omega$	290°	1548 $\Omega$
80°	1104 $\Omega$	300°	1569 $\Omega$
90°	1126 $\Omega$	310°	1590 $\Omega$
100°	1147 $\Omega$	320°	1611 $\Omega$
110°	1168 $\Omega$	330°	1631 $\Omega$
120°	1189 $\Omega$	340°	1652 $\Omega$
130°	1209 $\Omega$	350°	1673 $\Omega$
140°	1230 $\Omega$	360°	1693 $\Omega$
150°	1251 $\Omega$	370°	1713 $\Omega$
160°	1275 $\Omega$	380°	1734 $\Omega$
170°	1269 $\Omega$	390°	1754 $\Omega$
180°	1318 $\Omega$	400°	1775 $\Omega$
190°	1339 $\Omega$	410°	1795 $\Omega$
200°	1360 $\Omega$	420°	1816 $\Omega$
210°	1381 $\Omega$	430°	1836 $\Omega$
220°	1402 $\Omega$	440°	1856 $\Omega$
230°	1423 $\Omega$	450°	1876 $\Omega$
240°	1444 $\Omega$	460°	1897 $\Omega$
250°	1465 $\Omega$	470°	1917 $\Omega$
260°	1486 $\Omega$	480°	1937 $\Omega$
270°	1507 $\Omega$	490°	1957 $\Omega$
280°	1528 $\Omega$	500°	1977 $\Omega$

**Note:** Probe must be disconnected from circuit board when measuring probe resistance.

Measure the probe resistance against actual temperature in the Pressure Panel, not Control Panel Display temperature. Place thermocouple in Pressure Panel just behind louvers about waist high, not in center of oven. Make sure tip of thermocouple does not come in contact with metal when reading air temperature.

70403-03	Water Valve	3.5 $\Omega$
70403-04	120V Vent Solenoid	80 $\Omega$
30701-05	Relay 24V	35 $\Omega$
80505-14	Gas Valve MV Pins 1-2	62 $\Omega$
80505-14	Gas Valve Brown Wire to Brown Wire	19 $\Omega$
30700-14	Motor Contactor	5.5 $\Omega$

## SAFETY CONSIDERATIONS

Your oven was manufactured to rigid standards. The oven is ETL listed as a unit, and meets safety standards.

- A) **The responsibility of the manufacturer** is to supply suitable, comprehensive instructions and recommendations for the operation and maintenance of the subject units.
- B) Trained, qualified personnel must perform all operation, maintenance and repair of the subject units. It is the **responsibility of the owner/operator** to insure this happens.
- C) A regular periodic program of cleaning, inspection and maintenance must be established and comprehensive maintenance records maintained. It is the **sole responsibility of the user** to establish, schedule and enforce the frequency and scope of these programs in keeping with recommended practice and with due consideration given to actual operating conditions.
- D) The units must be operated within limits, which will not exceed the working limits of any component.

### **WARNING**

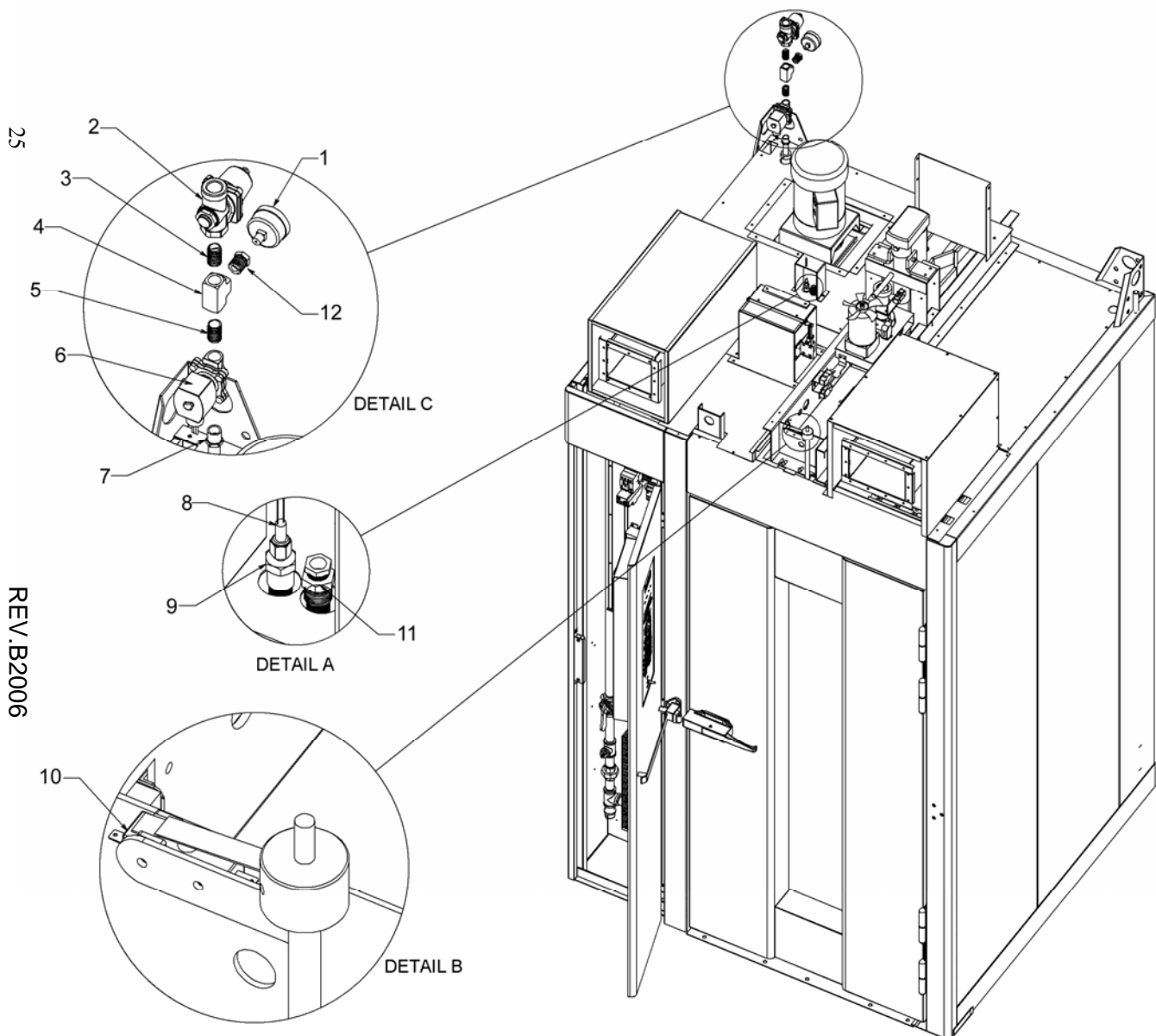
**SINCE RESETS FOR THE CIRCULATION BLOWER MOTOR AND THE LIFTER MOTOR / ROTATOR MOTOR ARE AUTOMATIC, ALL POWER TO THE OVEN MUST BE TURNED OFF BEFORE SERVICING.**





# PARTS LIST

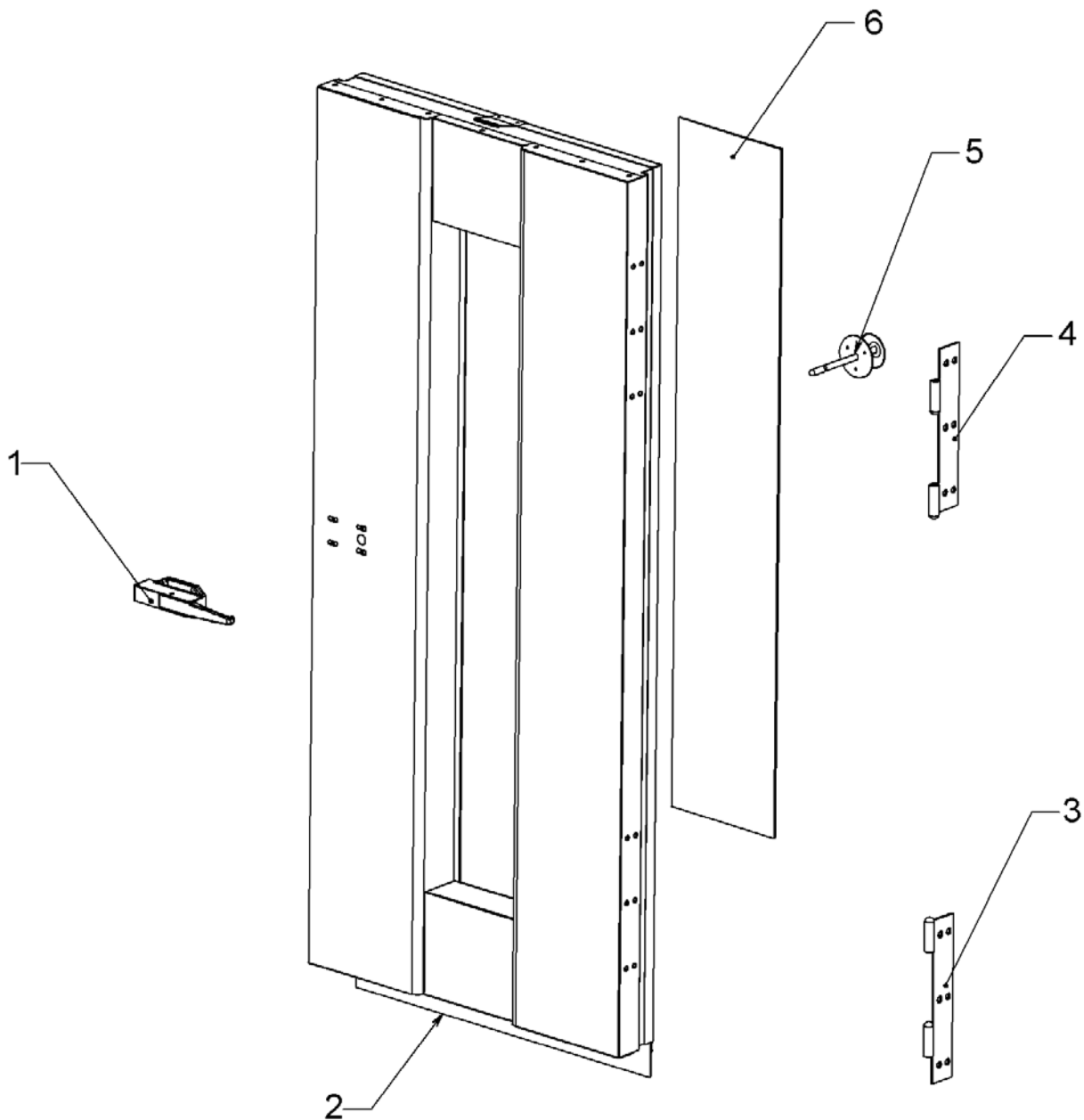
ITEM#	QTY	PART #	DESCRIPTION
1	1	70404-03	GAUGE 0-100 PSI
2	1	70404-05	REGULATOR, WATER 10 PSI
3	1	70302-39	BRASS PIPE NIPPLE, ½ NPT
4	1	70101-102	BRASS TEE, ½ NPT
5	1	70302-39	BRASS PIPE NIPPLE, ½ NPT
6	1	70403-03	SOLENOID VALVE, WATER
7	1	70307-08	PIPE REDUCER, ½ X 3/8
8	1	41100-33	TEMPERATURE SENSING PROBE
9	1	70101-100	COMPRESSION FITTING FOR PROBE
10	1	30301-02	MICRO SWITCH DOOR
11	1	70701-92	BRASS FITTING-PACKING FOR STAT
12	1	70307-04	PIPE REDUCER, ½ X 1/4



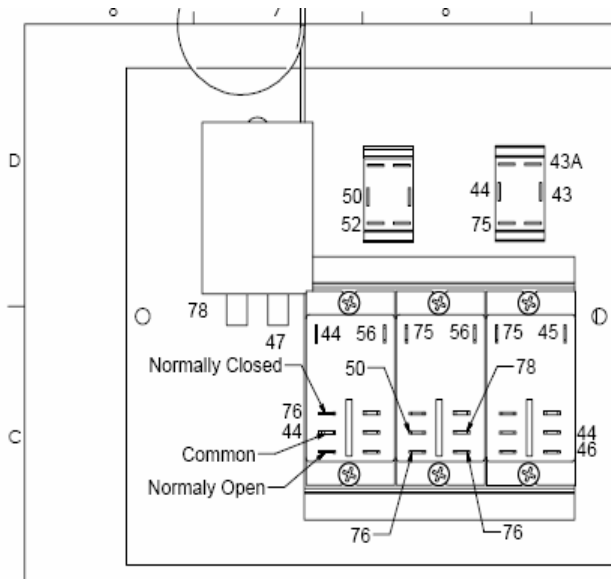
REV.B2006

## PARTS LIST CONT'D

ITEM #	QTY.	PART #	DESCRIPTION
1	1	50800-103	MAIN HANDLE ASSEMBLY
2	1	72609-18	SWEEPER BARO-1
2	1	72609-181	SWEEPER BARO-2
3	1	150-786	FEMALE HINGE ASSEMBLY, LOWER
4	1	150-786-1	FEMALE HINGE ASSEMBLY, UPPER
5	1	150-703	ESCAPE HANDLE ASSEMBLY
6	1	71301-19	WINDOW ASSEMBLY

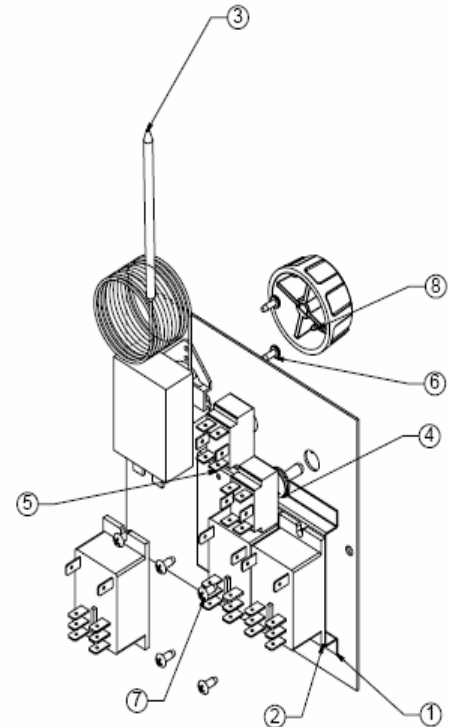


# PARTS LIST CONT'D



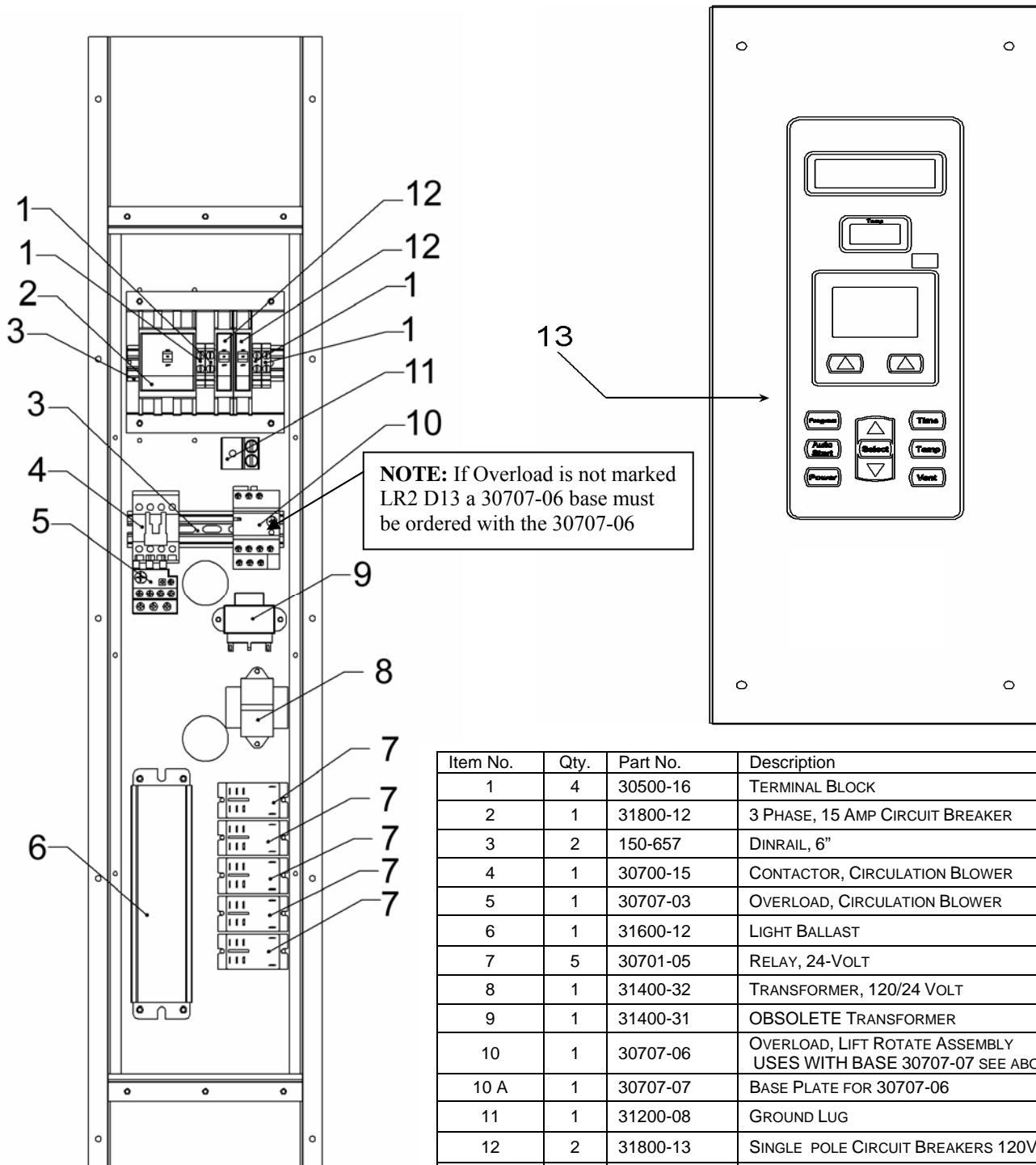
REVISIONS				
REV	DESCRIPTION	REV BY	REV DATE	CHK BY

Item #	Part #	Description	QTY
2	30701-05	24V Coil Relay 2 Pole	3
3	30402-38	T-stat Adj. 450° 72" C/T SP173	1
4	30303-06	Switch. Tog. On-On 2 Pole	1
5	30303-16	Switch. Tog. On-On Mom W/ Spring	1
6	20102-06	6-32x 3/8" Bolt	2
8	70701-17	Knob Assembly	1
9	60301-158-99	Label Back Up Control	1



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MM.		MATERIAL PART # :		MATERIAL TYPE :		BLANK DIMS. :		X		MODEL :	
TOLERANCES ARE: DECIMALS ANGLES .X = ± .05 .XX = ± .03 XXX = ± .015		DWN. BY : SH		DWN. DATE : 7/11/2007		CHK. BY :		CHK. DATE :		APVD. BY :	
DESCRIPTION: Assembly, Back-up Controls		APVD. DATE :		CAD FILE: 155-855-01		SHEET 1 OF 1		DWG. NO: 155-855-01		REV: A	

## PARTS LIST CONT'D

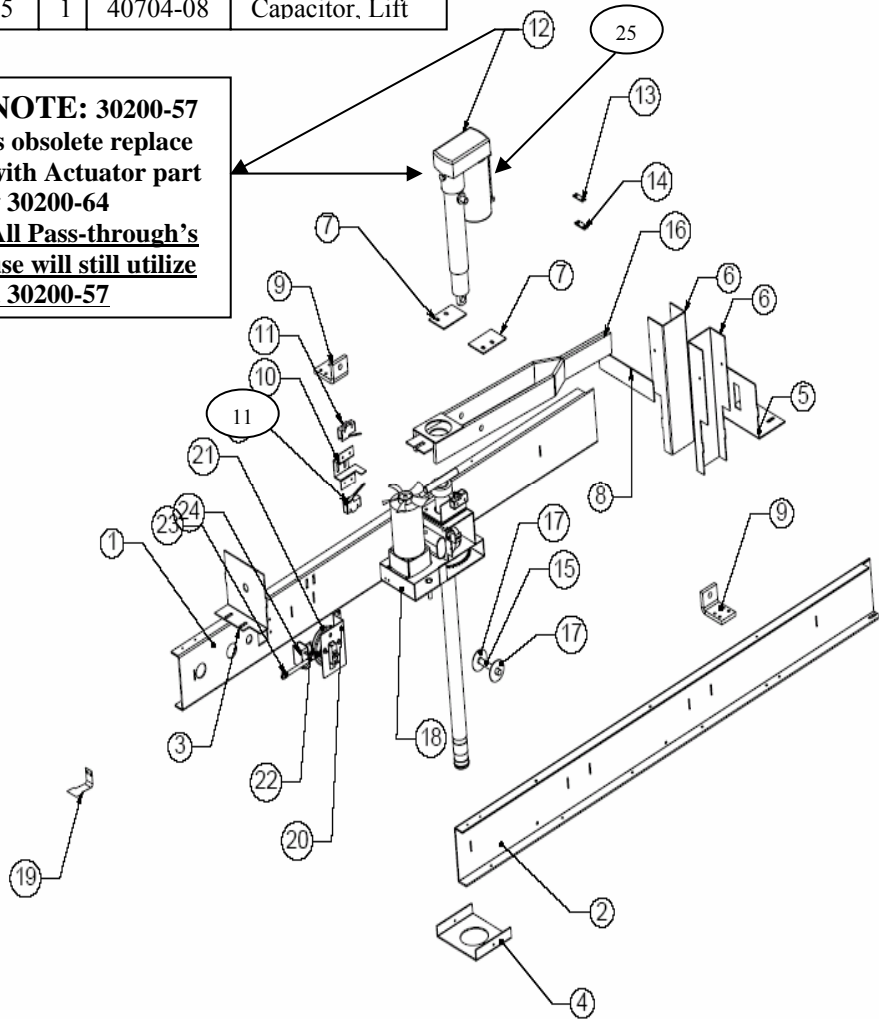
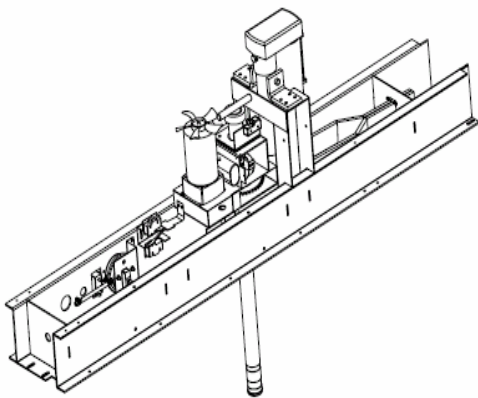


Item No.	Qty.	Part No.	Description
1	4	30500-16	TERMINAL BLOCK
2	1	31800-12	3 PHASE, 15 AMP CIRCUIT BREAKER
3	2	150-657	DINRAIL, 6"
4	1	30700-15	CONTACTOR, CIRCULATION BLOWER
5	1	30707-03	OVERLOAD, CIRCULATION BLOWER
6	1	31600-12	LIGHT BALLAST
7	5	30701-05	RELAY, 24-VOLT
8	1	31400-32	TRANSFORMER, 120/24 VOLT
9	1	31400-31	OBSOLETE TRANSFORMER
10	1	30707-06	OVERLOAD, LIFT ROTATE ASSEMBLY USES WITH BASE 30707-07 SEE ABOVE NOTE.
10 A	1	30707-07	BASE PLATE FOR 30707-06
11	1	31200-08	GROUND LUG
12	2	31800-13	SINGLE POLE CIRCUIT BREAKERS 120V 15A
13	1	60301-142	PANEL LABEL
13 A	1	40102-54	CIRCUIT BOARD, COMPLETE
13 B	1	40102-54-1	CIRCUIT BOARD, LED
13 C	1	40102-54-3	CIRCUIT BOARD, CPU / LCD
13 D	1	40102-54-4	CIRCUIT BOARD, RELAY OUTPUT BOARD
13 E	1	40102-54-5	CIRCUIT BOARD, KEY PAD

## PARTS LIST CONT'D

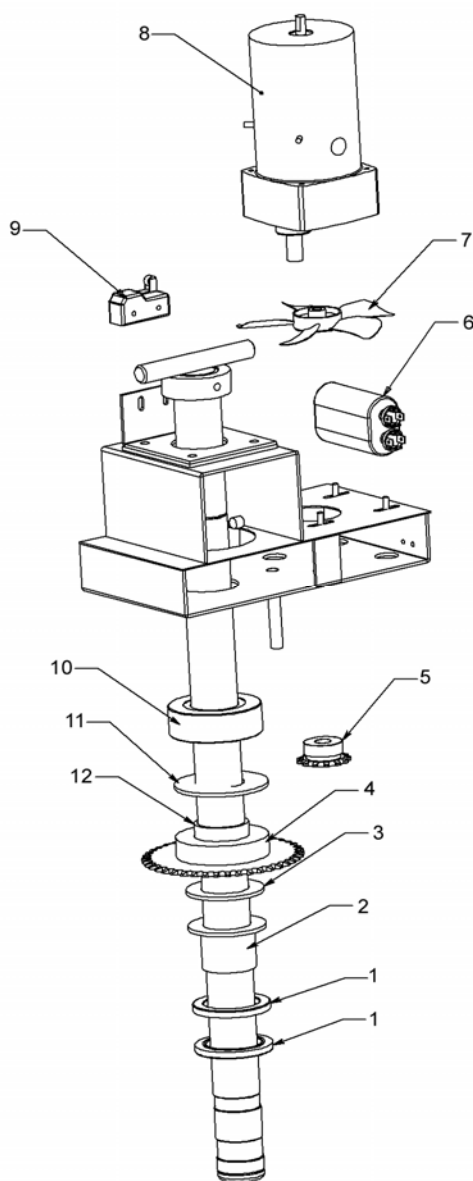
ITEM NO.	QTY.	PART NO.	DESCRIPTION	ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	160-140	L/H RAIL LIFTER	22	1	150-239	AIR HOSE
2	1	160-141	R/H RAIL LIFTER	23	2	71700-03	HOSE CLAMP 1/2 IN.
3	1	150-144	FRONT LIFTER ANGLE	24	1	30401-26	RACK OVEN HIGH TEMP STAT 550F
4	1	150-148	LIFTER BOTTOM				
5	1	150-143	REAR LIFTER ANGLE	25	1	40704-08	Capacitor, Lift
6	2	150-146	LIFTER TOWER				
7	2	150-145	TOWER END				
8	1	150-147	TOWER SPREADER				
9	2	150-130	LIFT KEEPER				
10	1	150-179	MICRO SWITCH BRACKET				
11	2	30301-02	SWITCH MICRO #2HLT-5 UNIMAX				
12	1	30200-57	LINEAR ACTUATOR				
13	1	150-137	FORK CLIP S/S				
14	1	150-138	FORK CLIP TEFLON				
15	1	50803-004	LIFTER PIN				
16	1	150-719	LIFTER FORK ASSY.				
17	2	150-135	LIFTER WASHER				
18	1	150-718	ROTATOR MOUNT ASSY.				
19	1	150-158	ACTUATOR MICRO SWITCH				
20	1	150-302	AIR SWITCH MOUNT				
21	1	30308-05	RACK OVEN AIR SWITCH				

**NOTE: 30200-57**  
is obsolete replace  
with Actuator part  
# 30200-64  
All Pass-through's  
use will still utilize  
a 30200-57



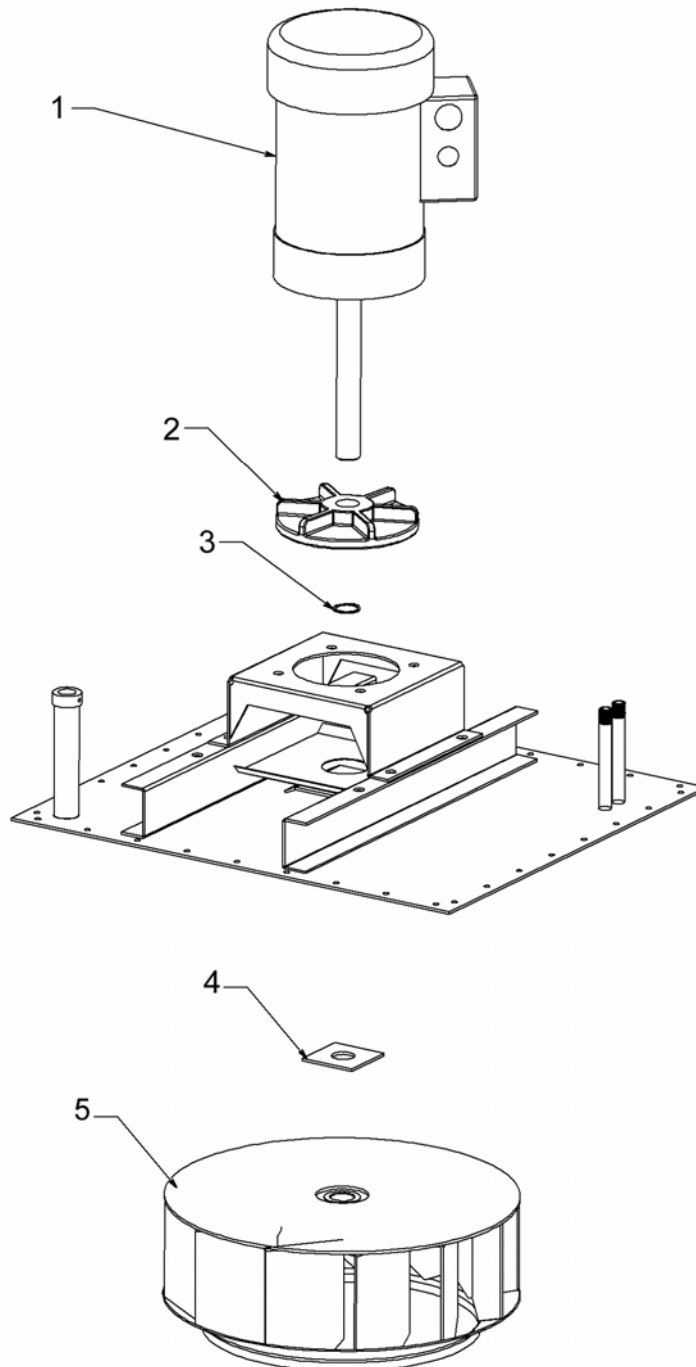
## PARTS LIST CONT'D

ITEM #	QTY.	PART #	DESCRIPTION
1	2	50803-003	DRIVE BUSHING
2	1	70200-11	BUSHING
3	1	70200-12	WASHER
4	1	73000-06a	DRIVE GEAR
5	1	73000-05a	MOTOR GEAR
6	1	40704-06	MOTOR CAPACITOR
7	1	71500-12	ROTATION MOTOR FAN
8	1	30200-56	DRIVE MOTOR
9	1	30301-15	ROTATOR MICRO SWITCH
10	1	50803-002	DRIVE COLLAR
11	1	70200-14	WASHER FRICTION THRUST
12	1	70200-13	BUSHING, CHAIN GEAR
Not Shown	2	20601-04	1.438" SNAP RING



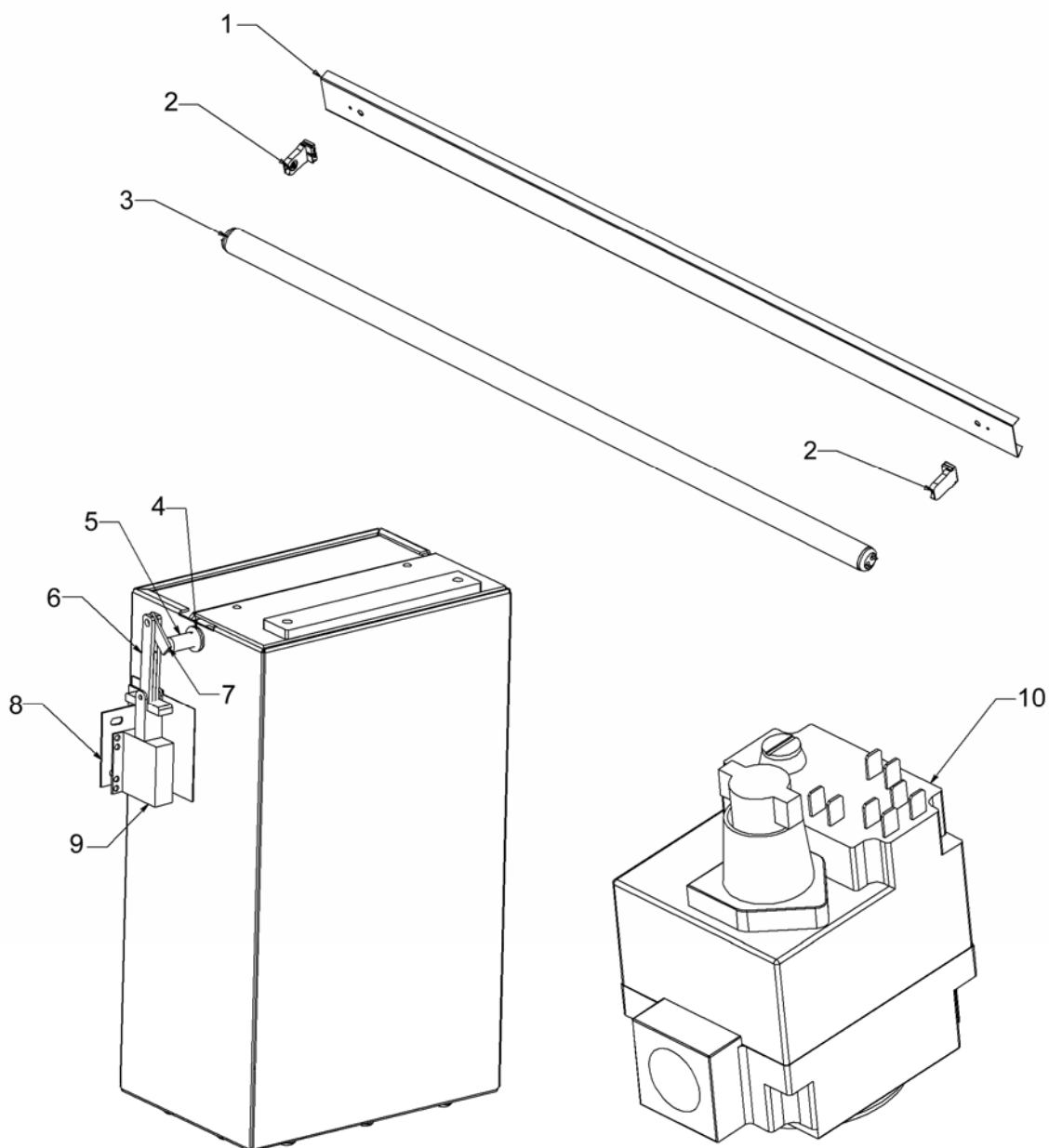
## PARTS LIST CONT'D

ITEM#	QTY.	PART#	DESCRIPTION
1	1	30200-59	MAIN BLOWER MOTOR
1	1	30200-61	SINGLE PHASE ONLY MOTOR
2	1	71500-14	MAIN BLOWER HEAT SINK
3	1	20601-07	RETAINING SNAP RING
4	1	150-368	BUSHING
5	1	71500-13	MAIN BLOWER WHEEL BARO1
5	1	71500-15	MAIN BLOWER WHEEL BARO2



## PARTS LIST CONT'D

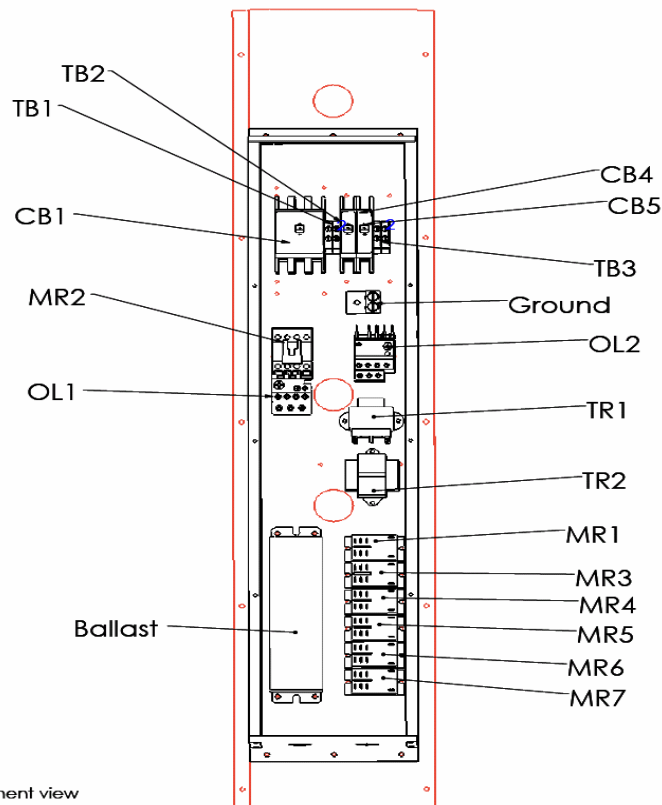
ITEM #	QTY.	PART #	DESCRIPTION
1	1	150-135	LIGHT HOUSING BACK
2	2	31602-07	LIGHT SOCKET
3	1	31600-13	4 FOOT FLUORESCENT BULB
4	2	20201-09	5/16" WASHER
5	1	50803-009	DAMPER ROD
6	1	150-790	DAMPER FORK
7	1	150-353	DAMPER ARM
8	1	150-349	DAMPER MOUNT
9	1	70403-04	120-VOLT DAMPER SOLENOID
10	1	80505-14	GAS VALVE, NG OR LP





## CONTROL PANEL LAYOUT

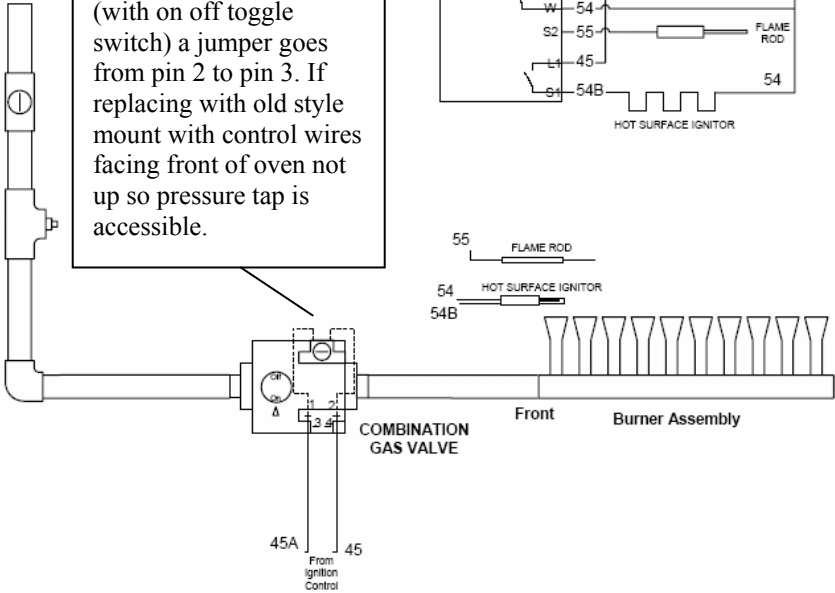
Item #	Description
TB2	Terminal Block 2, Roof ventilator connection
TB1	Terminal Block 1, Roof ventilator connection
CB1	Circuit Breaker 3-phase power supply, 30 Amp
OL1	Over Load Circuit Protection, Circulation Blower
Ballast	120 V Lamp Ballast
CB4	Circuit Breaker 1-phase 120V Line supply, 15 Amp
CB5	Circuit Breaker 1-phase 120V Line (Jump from CB4), 15 Amp
TB3	Terminal Block, 120V Neutral Supply
OL2	Lift and Rotation Motor Overload Protection
TR1	Transformer (120V – 10V) Control Circuit
TR2	Transformer (120V – 24V) All Controls
MR1	Main 120V supply
MR2	4 Pole Circulation Blower contactor, Heat call safety (Note: On Hot Surface models this is MR1)
MR3	24 V 1 set of contacts for CPU door switch, 1 set of points for MR4
MR4	Coil controlled by MR3 and rotation switch. Points control Lift actuator in N/C and rotation motor in N/O.
MR5	OL2 controls coil contacts control linear actuator and rotation.
MR6	Vent control
MR7,8 & 9	Back-up controls relay

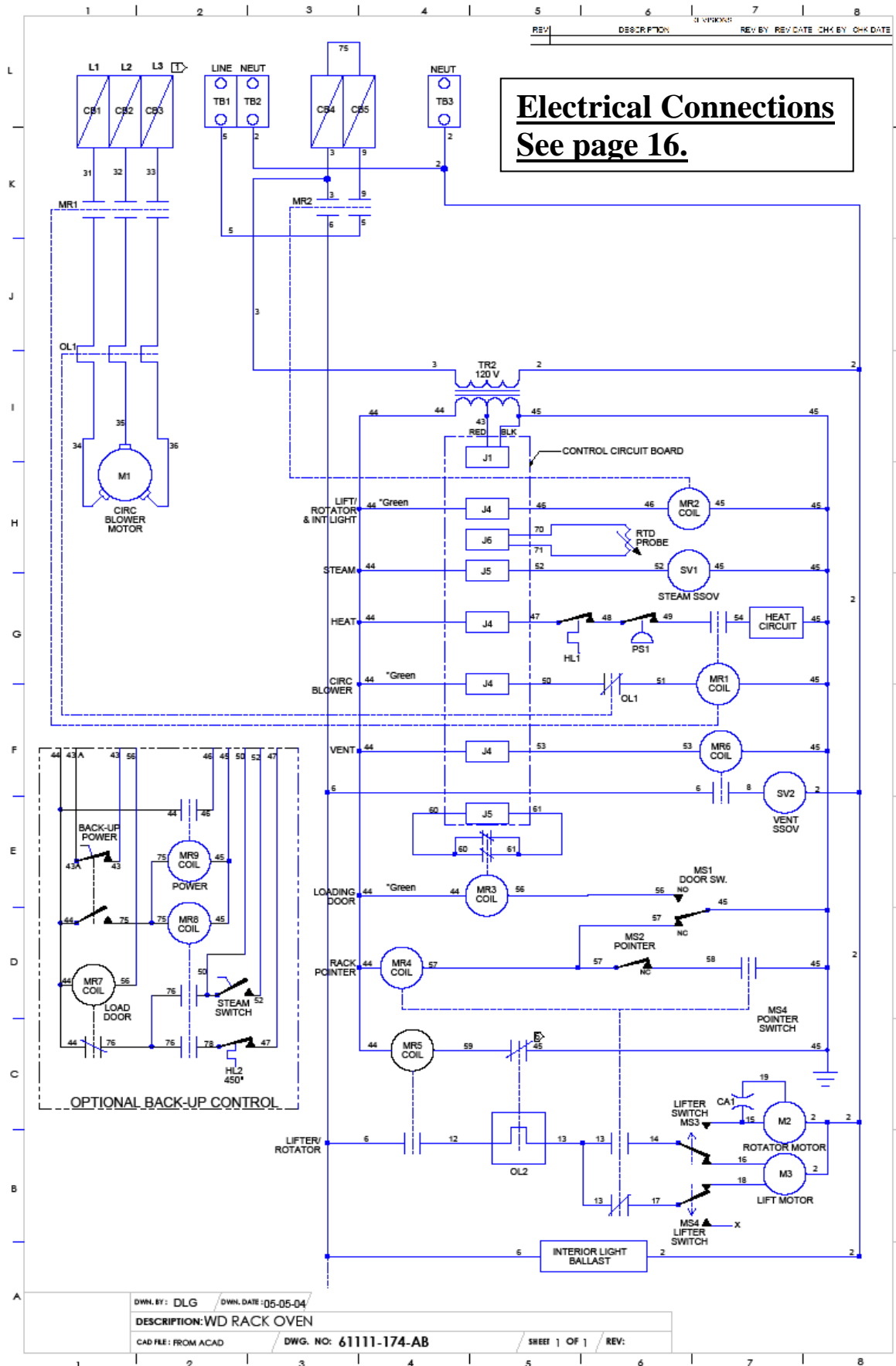


150-748-1 component view

## GAS CIRCUITS

On newer style valve (with on off toggle switch) a jumper goes from pin 2 to pin 3. If replacing with old style mount with control wires facing front of oven not up so pressure tap is accessible.





# **Service and Troubleshooting**

## **Model BARO Rack Oven**

### **No or Low Heat**

1. Door Open in display
  - If display reads Door Open while door is shut and rack carrier lifts and rotates check MR3 for normal operation. Test heat circuit by jumping J5 on relay board; at this point display should read Preheat and burner should fire. If J5 is jumped and display still reads door open replace relay board.
  - If display reads Door Open and rack does not lift or rotate check door switch and MR3 for normal operation. Test heat circuit by jumping J5 on relay board; at this point display should read Preheat, burner should fire and rack carrier should lift and rotate. If J5 is jumped and display still reads door open replace relay board.
2. Preheat in display
  - LD3 on relay board will illuminate when board is calling for heat; 24VAC from wire 47 to wire 45 should then be present.
  - If blower delay is set oven will not call for heat until set time elapses.
3. No power to heat circuit wires 54 and 45
  - Check to assure circulation blower contactor is closed and 24VAC is present between wires 49 and 45 (ground on ovens built after Jan. 2005). If voltage is present 24VAC should also be present at heat circuit.
  - Check for 24VAC on relay board when LD3 is illuminated between wires 47 and 45. Check air switch for 24VAC to ground. Jump out air switch or test for continuity. Check for water in air line; bend upward loop in airline to prevent water from entering air switch. Check for required airflow: Singles (BARO-1) 1520 FPM @ 530 CFM. Doubles 2300 FPM @ 800 CFM. A negative draw of 0.6" Water Column is necessary to close air switch. This can be an intermittent issue; if the vent motor is tripping on thermal overload or pulling a borderline volume of air it can appear to be an oven issue. Keep checking water column if air switch is intermittently opening. 120VAC is supplied to roof vent blower through CB5 and MR2. 120VAC should be present on TB1 and TB2.
  - If air switch is closed test high limit; at this point 24VAC should be present at circulation blower contactor wire 49 to 45 (ground on ovens built after Jan. 2005) and then to wire 54 to heat circuit.

## Model BARO Rack Oven

### 4. Power to heat circuit, low heat, slow heat

- Check for 24VAC at wires 54 and 45 on hot surface igniter and ignition control simultaneously. Ignition control should blink once and hot surface igniter should glow red hot. If igniter glows intermittently replace igniter.
- Ignition control proves hot surface igniter amps. After approximately 7 seconds 24VAC from ignition control should be present to wires 45 and 45A on pins 1 and 2 of main valve, and at 2 brown wires also plugged into pins 1 and 2 on main valve. Valve should then open igniting burners.
- Main valve coil (pins 1 and 2) with 2 brown wires unplugged should read 62Ω. Redundant pilot valve (2 brown wires) should read 19Ω unplugged.
- Once burners are lit 4 micro amps should be present from flame sensor to pin S2 on ignition control. If micro amps are weak check gas supply pressure, NG 5"-14" and LP 10"-14" with never more than a ½" W/C pressure drop—this could indicate low gas volume. Manifold pressure on **BARO-1G** 3" NG and 8" LP. Manifold pressure on **BARO-2G** 2.5"-2.8" NG (see tag on valve) and 6" LP. If gas supply is sufficient and micro amp reading is low replace flame sensor.
- If burner does not stay lit long enough to develop a micro amp reading on flame sensor check for continuity between wire 45 on valve and chassis ground.
- Check oven calibration and probe Ω reading.

## Temperature Erratic

### 1. Temperature in display jumping

- Make sure a program is correct (0 blower delay) and countdown timer is running. Display temperature will jump around dramatically when Automatic Energy Management System turns on; this is a normal energy saving feature. If temperature stays at one temperature or drops before preheat temperature is achieved or to turn AEMS off, (on software versions 3.07 and newer) contact factory.
- Temperature will drop when steam is run. More than 15 seconds of steam is not recommended; at this point no more steam is generated and oven is drastically cooled.
- After temperature begins to climb in preheat the temperature should increase in increments of 2-3 degrees every 4-7 seconds. If temperature is sticking on one temperature in preheat and taking more than 7 seconds to change, check the temperature probe to ensure that it is not grounded or contact factory for more information.

## **Model BARO Rack Oven**

### **No Steam**

#### **1. Oven not generating steam**

- Preheat oven to at least 300° for at least 20 minutes before steam cycle. Wait at least 20 minutes between cycles.
- Check for 30 plus PSI to oven.
- Check water supply valves and filters. Is other equipment on same water supply line working?
- Check steam tubes in oven for security.
- LD5 on relay board will illuminate when steam relay is closed; 24V from wire 52 to wire 45 (ground on ovens built after Jan. 2005) should then be present. At this point you should have 24V to solenoid and solenoid should open. Check solenoid coil for 80Ω.

### **No Rack Lift/Rotate and, or Light**

#### **1. Display on, no rack lift/rotate or light**

- With display turned on LD4 illuminates; at this point 24VAC should be present from wire 46 to wire 45 (ground on ovens built after Jan. 2005). At this point you should have 24VAC to MR2 coil.
- Check MR2 for normal operation; at this point 120VAC should be present between wire 6 and wire 2 and the roof vent blower and light should turn on.
- If light does not turn on check bulb and ballast.
- If rack carrier does not lift and rotate check door switch and MR3 for normal operation; at this point you should have Preheat in display and 24VAC to MR4 coil.
- If 120VAC is not present from wire 13 to ground on MR4 check MR5 and OL2 for normal operation. If 120VAC is present from wire 13 to ground on MR4 and through MR4 on wire 14 to upper limit switch check upper limit switch for 120VAC to ground.
- In normally closed condition the upper limit switch should send 120VAC to lift motor on wire 16 until upper limit switch clicks to normally open, then 120VAC through wire 15 should be present at rotate motor. Check wire 15 and 16 to ground for 120VAC.
- If 120VAC is present at wire 16 to wire 2 and lift actuator will not lift check capacitor before changing lift motor.
- If 120VAC is present at wire 15 to wire 2 and rotate motor will not turn check capacitor before changing motor.
- If rotation motor is turning and rack carrier is not turning check motor sprocket (or motor gear on models built after July 06), chain (on models built before July 06 only), friction washer, drive sprocket (or drive gear on models built after July 06) and drive collar for security and proper operation. At this point rack carrier should turn.

## **Model BARO Rack Oven**

1. Display on, no rack lift/rotate or light continued
  - Check for proper rack (height and slide dimensions) and upper limit switch for proper adjustment. Make sure both rack clips on carrier lock.
  - Check floor anchors for security. If floor is not secure it will buckle up and keep racks from turning.
  - Check oven level and shaft plumb.

### **Rack Continues to Rotate or Does not Lower**

1. Rack continues to rotate or does not lower when door is open
  - Check door switch for normal operation.
  - Check MR3 for normal operation.
  - Display at this point should read door open.
  - Check pointer switch for normal operation. When pointer switch is open and MR3 points are open MR4 should be in normally closed condition.
  - Check MR4 and lower limit switch for normal operation.
  - If 120VAC is present between wires 18 and 2 on lift actuator and actuator will not lower check capacitor before changing actuator.

### **Burner Screeching or Banging on Ignition**

1. Gas pressure
  - Check gas supply pressure, NG 5"-14" and LP 10"-14" with never more than a ½" W/C pressure drop—this could indicate low gas volume. Manifold pressure on **BARO-1G** 3" NG and 8" LP. Manifold pressure on **BARO-2G** 2.5"-2.8" NG (see tag on valve) and 6" LP.
2. Exhaust plugged
  - Check exhaust for obstructions.
3. Cracked heat exchanger
  - Inspect heat exchanger for cracks.
4. Inshot burners obstructed or damaged
  - Visually check flames to make sure they are burning straight up burner tubes and not rolling into manifold.
  - Pull manifold and correct burner alignment.
  - Remove foreign objects and clean flour or dust buildup from burners.
5. Valve leaking
  - If valve does not seat closed gas can leak into heat exchanger when not calling for heat.

## **Model BARO Rack Oven**

### **Uneven Bake, Burning**

1. Circulation blower running backwards
  - Circulation blower motor should spin counterclockwise when viewed from top. If blower is spinning backward it will cause longer baking times and uneven bake.
2. Timer not counting down
  - Allow oven to preheat then select program and press start. Cooking in energy saving mode or with too much blower delay will cause longer baking times and uneven bake.
3. Baking / product temperature
  - Lower temperatures will result in a more consistent, even bake. Baking temperatures should be about 50° lower and times should be about 10% lower than standard (non convection) bake oven recipes.
  - Product core temperature uneven.
  - Product different size or density.
  - Calibration accurate. Temps taken inside pressure panel, not center of oven. See operation instructions or contact factory to enter calibration mode.
  - After temperature begins to climb in preheat the temperature should increase in increments of 2-3 degrees every 4-7 seconds. If temperature is sticking on one temperature in preheat and taking more than 7 seconds to change contact factory.
4. Airflow
  - Check air shutter settings. See service manual or contact factory.
  - Foreign object blocking air flow into heat exchanger.
  - Pans too close together. Leave at least 2-3 inches between top of finished product and bottom of next pan.

### **No Display**

1. No LED (red) Display
  - No countdown timer. Make sure time is set correctly and press start.
  - No countdown timer or red display. Shut off 120V circuit breakers CB4 and CB5 located behind control panel and turn back on. If display comes back on contact factory.



### **Model BARO Rack Oven**

#### 2. No LCD (green) Display

- Press power button; at this point display should turn on.
- Check CB4 and CB5 for 120VAC on load side to TB3; at this point you should have 120VAC to transformer on wires 2 and 3.
- Check transformer for normal operation. Check primary (120V) side of transformer for  $4.5\Omega$ . Too many amps on secondary side of transformer will pop primary side of transformer. Check transformer secondary side for 12VAC on center tap. Center tap should read  $.3\Omega$ . Check transformer secondary for 24VAC on outside 2 pins and for  $.5\Omega$ .
- Check J1 for 12VAC; at this point LD8 should illuminate. Check grey communication cable between relay board and CPU display board; at this point LD1 and LD2 on CPU should illuminate. When power button is pressed the button board sends information to the CPU and both CPU and LCD display should illuminate.

#### 3. LCD (green) display hard to read

- A small, grey, square trim pot for adjusting display contrast is located on the top right corner viewed from rear of CPU/LCD.
- If display overheats lines may develop in display making it hard to read. As display cools this should go away; however if display is exposed to continuous high heat this condition may be permanent. If condition reoccurs a cooling fan may be necessary.



**Revision 3.07**



**BARO Series Roll-in Rack Oven  
Computer Controls  
Operating and Programming Instructions**

# Manual Mode Operation

## 1: Begin by Pressing the POWER Key

NOTE: Depending on what mode the oven was last operated in the status screen will display either the preprogrammed recipe mode or the manual mode.

The oven will always start in its last run mode.

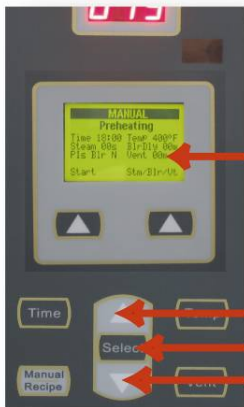
Current oven temperature will be displayed in the Oven Temperature LED



III - 1

## 2: Enter Manual Mode

Press the Manual Recipe key to switch between the preprogrammed recipe mode to the manual mode.



III - 2

Select Up Arrow Key  
Select Key  
Select Down Arrow Key

## 3: Enter Baking Parameters

Press the Select Key to highlight the bake time minutes.  
Press the Up or Down Select Arrow Key to Change the bake time.

Continue using the Select Key and the Arrow Keys to set the other parameters.

### IMPORTANT NOTES:

Excess Steam Time can result in water overflowing and loss of temperature. Never exceed 30 seconds of steam at one time.

The Oven does not heat when the blower delay is on. Limit blower delay to 2-5 minutes during a bake. If more time is needed consider using the Pulse Blower Function.

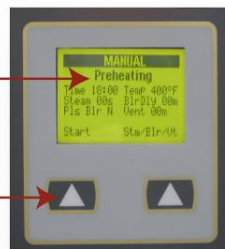
Vent time is calculated from the end of the bake time. For Example, to vent the oven 1/2 way through a 20 minute bake set the vent time to 10 minutes. Pulse Blower will pulse the blower On for 1 Minute and Off for 3 Minutes throughout the entire bake.

Bake time can not be lower than the sum of all these features.

## 4: Press START Arrow

Allow the oven to reach the ready temperature before loading. Check the Status Screen to see if the oven is Preheating or Ready to Bake.

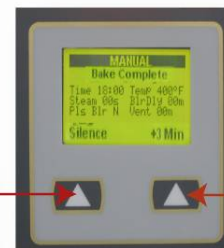
Press the **START** Arrow Key



III - 3

## 5: End Of Bake

Press to End Bake



III - 4

Press to Add Time

This oven is equipped with an energy saving mode. The **START** Arrow Key **MUST** be pressed to begin a bake cycle.

At the end of the bake the counter will read 00:00 and the controller will beep. If the product needs more time to finish baking press the arrow key under the +3 Min to add three minutes of time, or press the Arrow Key under the word Silence to end the bake.

# Adding / Editing Preprogrammed Recipe Items

**1: Begin by Pressing the POWER Key**

**2: Enter Programming Mode**

Press the Manual Recipe key to switch between the preprogrammed recipe mode to the manual mode



III - 10

**3: Open Recipe List**

Press the Arrow Key under List

**4: Select Recipe Item**

Using the select Up or Down Arrow Key scroll through the 60 recipe items until the desire item is highlighted



III - 11

**5: Press The Edit Arrow**

Press the arrow key to open the recipe item



III - 12

**6: Program Events**

Use the Select Key to Move Through the Screen.  
Use the Select UP or Down Arrow Key to change the settings.



III - 13

**7: Press the Next Arrow**

Press the Arrow Key under Next

The Events are time driven, If there is no time for an event it will not run.  
Steam and Vent can not be used in the same event

**8: Name and Icon**

Use the Select Key to Move Through the Screen  
Use the Select UP or Down Arrow Key to change the Name or Icon



III - 14

**9: Save Changes**

Press the Save Arrow key

## Sample Recipe Items

### Large Muffins



### 10" Frozen Pies



### Italian Bread Frozen Dough



### Crusty Baguettes Frozen Dough

